AMERICAN CINEMATOGRAPHER

The Motion Picture CAMERA Magazine

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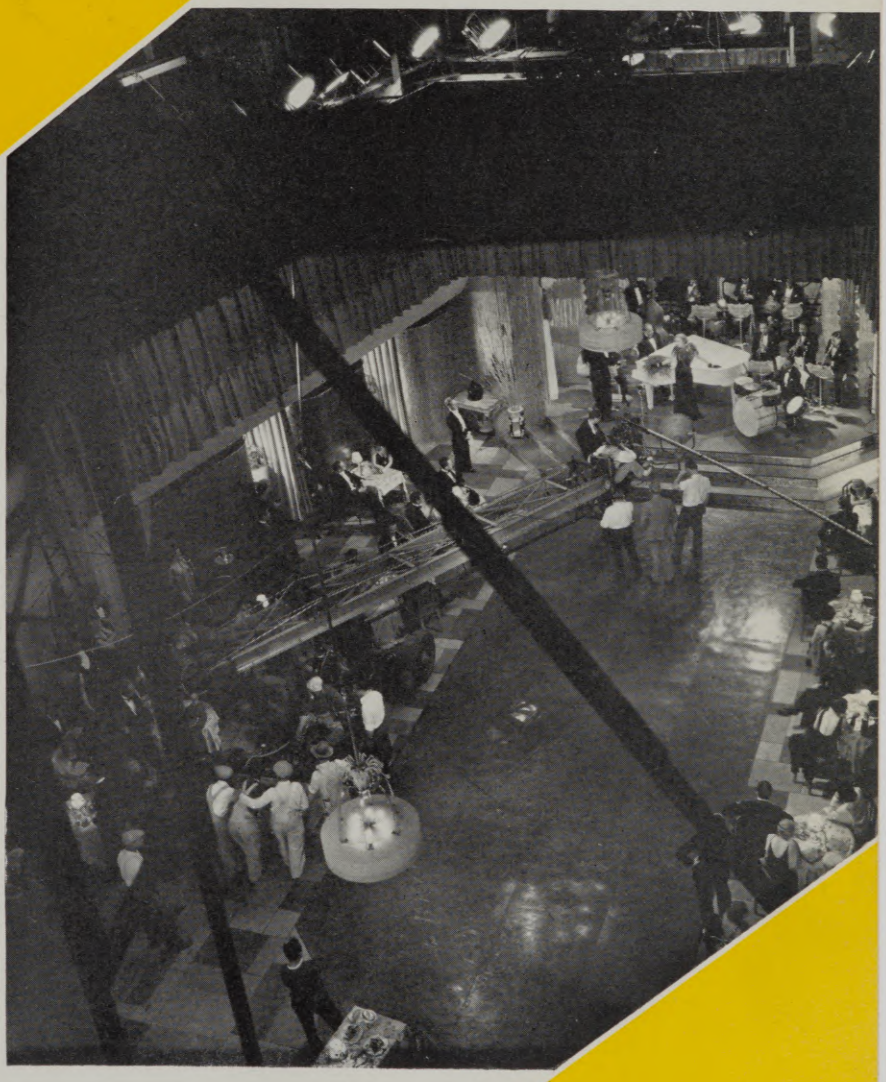

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Volume 16 **MAY 1935** **Number 5**

What to Read

Next Month

● The men who went with Byrd to the South Pole will tell you of their experiences . . . tell you of their technical difficulties and other interesting phases of this unusual assignment.

● Color is the talk of Hollywood. We will tell you what a cinematographer thinks of Technicolor: Ray Rennahan, who is responsible for the photography in practically all current Technicolor productions.

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THE AMERICAN SOCIETY OF CINEMATOGRAPHERS was founded in 1918 for the purpose of bringing into closer confederation and cooperation all those leaders in the cinematographic art and science whose aim is and ever will be to strive for pre-eminence in artistic perfection and technical mastery of this art and science. Its purpose is to further the artistic and scientific advancement of the cinema and its allied crafts through unceasing research and experimentation as well as through bringing the artists and the scientists of cinematography into more intimate fellowship. To this end its membership is composed of the outstanding cinematographers of the world with Associate and Honorary memberships bestowed upon those who, though not active cinematographers, are engaged none the less in kindred pursuits, and who have, by their achievements, contributed outstandingly to the progress of cinematography as an Art or as a Science. To further these lofty aims and to fittingly chronicle the progress of cinematography, the Society's publication, The American Cinematographer, is dedicated.

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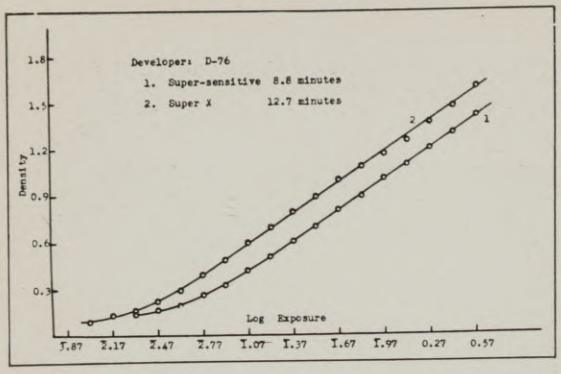


Fig. 1

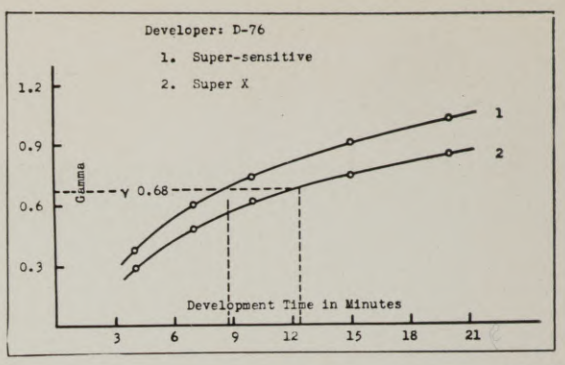


Fig. 2

Eastman Super X Panchromatic Negative Motion Picture Film

by
Emery Huse, A.S.C. and Gordon A. Chambers
West Coast Division
Motion Picture Film Department
Eastman Kodak Company.

PHOTOGRAPHY is the very foundation upon which the motion picture industry is built. Undoubtedly the most important product in photography is the negative film with which the various scenes are photographed. In accordance with the general policy of improving its products, the Eastman Kodak Company very recently placed on the market a new panchromatic motion picture negative ilm under the trade name "Eastman Super X Panchromatic Negative."

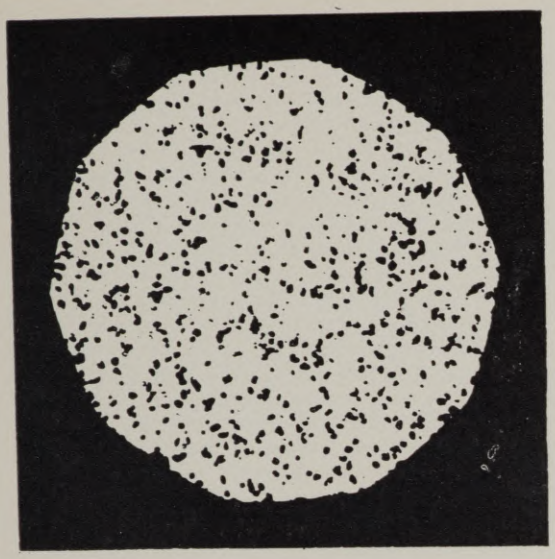
This new film upon laboratory tests shows a definite speed increase over other types of negative products without showing an increase in graininess. Actual camera tests have borne out these facts. Probably the first practical use to which this film was put was at the recent Hauptman trial at Flemington, New Jersey, where most of the courtroom action was photographed with this film. The speed of this emulsion was of material assistance to the news cameramen in obtaining adequate exposure under adverse lighting conditions. From the standpoint of general motion picture production it is felt this film will be extremely useful, particularly in background projection and miniature work where high speed emulsions are required. It should also prove its worth in normal production photography.

Samples of this film have been generally distributed locally and a summary of all reports received to date from those testing it substantiates the superior qualities of this film. It is the purpose of this short article to outline somewhat statistically the technical features concerning this new Eastman Super X Panchromatic Negative motion picture film.

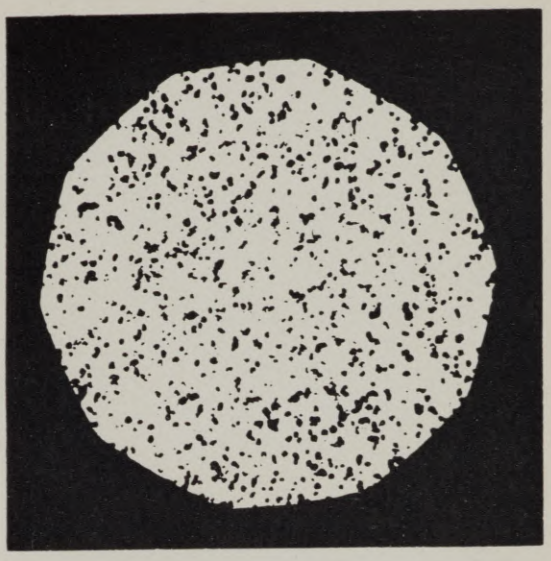
A complete analytical study of the characteristics of this film was made sensitometrically in comparison with all types of motion picture negative films, including hypersensitized film. In the direct comparison this paper will contain data only for Eastman Super X and Super-Sensitive negatives and it must not be construed that the latter is in any sense of the word an inferior negative. It is our belief, however, that the characteristics of the Super X negative indicate some definitely superior photographic qualities. The two main features of this new film which readily distisnguish it from all other motion picture negative emulsions now on the market are its speed and development factors. These two factors when properly balanced in exposure and development make for very excellent photographic screen quality.

The sensitometric analyses on these emulsions were made following the orthodox procedure. All sensitometric exposures were made on the Eastman Type 11b sensitometer using both the normal negative setup, in which instance the quality of the light source is that of daylight, and also a special negative setup in which the quality is that of high efficiency tungsten. For each emulsion several strips were exposed under each condition. Likewise for each emulsion strips were developed for a series of times ranging from 4 to 20 minutes, using a borax (D-76) type of developer. From a series of tests thus exposed and developed a family of H and D curves was constructed from which it was then possible to determine the time-gamma curve. From this curve the necessary development data were deduced.

In any comparison of negative type emulsions it is logical to consider as important those tests developed to equal and normal negative control gammas. This by no means implies that the development time is constant or the same because each type of negative film usually differs in its development characteristics. In Figure 1 are shown two sensitometric curves, one each for Super-sensitive and Super X negatives. These curves are shown for the same gamma, that is, .68, and represent actual experimental data. While an analysis of the tests made with the daylight and tungsten setups shows some difference, it is not necessary here to make any distinction between these two modes of exposure. The curves in Figure 1, therefore, are quite representative of the speed at equal gammas between these two emulsions when developed in a borax type developer. As these curves are plotted on the same axes, the displacement of one curve from the other gives a definite indication of the speed ratio between them. In this instance there is approximately a 90% speed increase shown



Super-sensitive



Super X

Fig. 3

for the Super X negative over the Super-sensitive. Before leaving this point we should like to reiterate that inasmuch as the Super X negative is of an inherently lower contrast than Super-sensitive, it stands to reason that the development time on the new film should be longer than that on the Super-sensitive. A fair comparison of speed between any two emulsions can only be made when both emulsions are developed to the same gamma. If the Super X negative is developed for the same time as Super-sensitive it will be relatively under developed and sensitomtrically it would show an appreciably lower gamma. It is not to be expected, therefore, that the speed differential quoted above would hold for a condition of equal development times but it will be found to hold provided each emulsion is developed to the same gamma irrespective of the times of development required to do this. This is definitely proven by the data contained in Figure 1.

The times of development necessary to produce curves of equal gamma on each type of film are indicated in Figure 2. It will be observed that in general the development characteristic of the Super X negative is quite different from that of Super-sensitive. Although by the mode of development employed in these tests a difference of approximately 4 minutes was found necessary, it does not imply that this same time ratio would hold in different types of developing machines or with different negative formulas. Practically every motion picture laboratory makes use of a borax type formula but the standard D-76 formula is somewhat modified to satisfy the requirements of the different types of developing machines. Tests made at various laboratories show that the Super X negative requires from 1½ to 3 minutes more development time than the Super-sensitive to obtain the same gamma. It is quite well known that any pair of negative emulsions will show slight differences in both speed and development ratios, dependent upon the actual developer formula and developing machine employed.

Another point which is very necessary to establish is that of graininess. One normally has the right to expect that with higher speed emulsions, larger grain size occurs. In the case of Super X film, however, this is not the case. In Figure 3 are shown photomicrograms of the two types of film, the originals of which were made at 435X magnification from areas of equal densities on the two films each developed to the same gamma. A careful analysis of the two photomicrograms shows the Super X negative quite similar to Super-sensitive, although many observers have picked the Super X negative as showing slightly finer grain than the Super-sensitive. The difference between them, however, is quite small and probably is discernible on the screen only upon careful examination. The main point to establish, however, is the fact that the Super X negative, although approximately twice the speed of Super-sensitive at the same gamma, does not show any increase in grain size. This is one feature in which the Super X film is an outstanding product.

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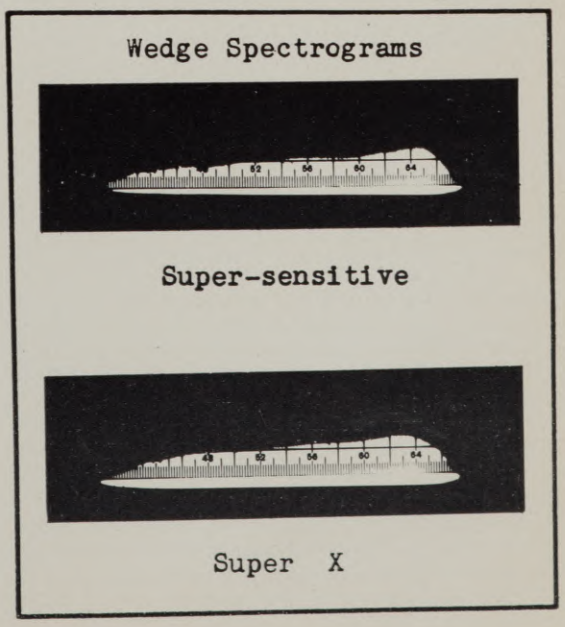
Fig. 4



Corrective Makeup As an Aid to Cinematography

by
Perc Westmore
President, Motion Picture Makeup Artists' Association, Director of Makeup, Warner Brothers'-First National Studios

EVER since the first crank turned, cinematographers and Makeup Artists have been comparing makeup to retouching in 'still' portraiture. The comparison is a good one, but we've made it inaccurate: in retouching, both the contour and the texture of the facial areas are rendered more pleasing; in conventional makeup, we deal almost exclusively with complexion and texture, leaving the modelling of objectionable contours almost entirely to the cinematographer and his lights. That is all well enough, for cinematographers can, by painting with light and shade, modify facial contours, accentuating good features and concealing or minimizing bad ones, to a remarkable extent. But since makeup can, as has been proven, aid the cinematographer in modifying facial textures, would it not be even better for the makeup artist to aid him even more by correcting objectionable contours?

We have answered the question with a vigorous affirmative. Within the past year, we have put into practice at the Warner Brothers' studios a new system of makeup which we call "Corrective Makeup." With it, we have been able to simplify the work of the cinematographer, and to greatly enhance the facial attractiveness of our stars. In some instances, we have virtually remodelled famous faces; in others, we have, so to speak, salvaged budding starlets from the obscurity which often waits for players —however promising—who "don't photograph well."

We simply apply to makeup the same basic principles by which cinematograhers model faces with lighting: highlighting places that are undesirably recessed or concave, shadowing unpleasant protuberances. This is not done with liners or obvious tricks of coloration, but by carefully-planned use of different shades of regular grease-paint.

Perhaps the best illustration of the method would be to follow the course of treatment given to a new player before she starts her first production on our lot. First of all, we study the player's face, as well as her portraits, in order to get a preliminary idea of the corrections we are to make. Next, we find out what type of makeup she has previously worn, and determine what is to be the basic shade of her new makeup.

At this point, the creative part of corrective makeup begins. Let us say that the lady has a face that is too round and full for our purpose, especially around the cheeks and chin; her nose is rather broad and flat; her lips are larger than we care for; her chin shows a pronounced dimple, and there are little hollows at the corner of her mouth which detract from the youthful effect. In addition, her eyes are so blue that they will appear 'washed out' on the screen.

Point No. 1 is, of course, to slenderize her face. This is done by using grease-paint several shades darker than the base makeup, and applying it at the hair-line, and under the chin—exactly as a good cinematographer would strive to maintain shadows in these same areas. Suppose the basic shade is a No. 25 grease-paint: these shadows might be painted with No. 29. The broad nose would be thinned by highlighting the ridge with a lighter paint—say No. 22—and shadowing the walls of the nose with a darker shade—perhaps No. 27.

The lips, of course, would be remolded by applying lip-rouge to the desired shape and size, and extending the ground color to meet the new lip-line.

The dimple, and the hollows at the corners of the mouth, would be lightened by using a grease-paint lighter than the basic ground shade—let us say No. 23.

The eyes, in addition to being accentuated in much the usual manner, would be darkened by placing a spot of red in the corners, where it would cause little dark catch-lights in the iris. In this connection, it may be interesting to note that natural eyebrows are the rule at our studio; plucked eyebrows are strictly taboo, not only because of their unnatural appearance, but because of their effect on the lines and contours of the face.

Once this makeup has been evolved, a detailed sketch of the player's face is made, indicating exactly the areas treated correctively, and specifying the exact shades used in each place, as well as the basic makeup shade. This is given a "Case Number," exactly as a doctor might enumerate his patients, and filed, together with a photograph of the corrective makeup, in the Makeup Department's files.

It should be understood, of course, that these corrective makeups are rigidly adhered to, and that they are applied, not by the player herself, but by the studio's makeup

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John Arnold Starts Fifth Term As A.S.C. Head

John Arnold, A.S.C.

IN AN unparalleled tribute to the leadership which for four years guided the organization through its most trying and change-filled period, John Arnold was unanimously re-elected President of the American Society of Cinematographers at the Society's annual election, and launched upon his fifth successive term as the organization's Chief Executive.

Victor Milner was re-elected First Vice - President; James C. Van Trees became Second Vice-President, and Charles B. Lang, Jr., Third Vice-President. Fred W. Jackman was elected Treasurer of the Society, and Frank B. Good retained the office of Secretary. Of these, both Van Trees and Jackman are former Presidents of the Organization. John W. Boyle, Elmer G. Dyer, A. L. Gilks, Charles Lang and Joseph Walker were elected to serve three-year terms as members of the Board of Governors.

Commenting upon his re-election, President Arnold said, "I hardly need to say that I feel highly honored by this expression of confidence in my administration: such a tribute is not lightly to be forgotten. But it is far too impressive to be taken in a purely personal sense; rather, it is an expression of confidence in the sincerity and integrity of the Administration as a whole. What we have thus far been able to accomplish has not been due to the efforts of any one man, or of two or three, but to the concerted and unwavering loyalty and unstinted labor of the entire board. Due to this spirit of unity, we have been able to accomplish much in the past, and with it, we are sure to achieve even more in the future.

"The year just past has been a period of reorganization, of cementing the foundations previously laid. A year ago, we were just completing an unparalleled expansion of the Society's membership and activities. Since then, we have striven to consolidate our gains—to mould our organization into the form best suited to its purpose of serving cameramen, individually and collectively. In this, we have exceeded our fondest hopes, for the A.S.C. now stands as a monument to the ideal that the relations between Cinematographers and Producers can be maintained on a basis of harmony and fair-play. We have made this ideal an actual fact whose existence has directly benefited every member of the camera profession. Viewed collectively, the working conditions of Cinematographers are better today than they have ever before been; employment is attaining higher peaks, with more work for more men more consistently. Fewer restrictions hedge the members of our craft, and many detailed improvements are noticeable, affecting every group and classification.

"Moreover, innumerable individual benefits have accrued. These have not been proclaimed with a fanfare of publicity, but the concrete results of the cooperation now existing between the Society and the Producers have been manifested repeatedly.

"My platform for the future remains exactly as it was five years ago: I pledge myself and my associates to bend every effort for the betterment of Cameramen. We dedicate ourselves to advancing the interests of our craft, adhering always to the ideals of loyalty, sincerity and justice which have thus far crowned our labors with such success. No member of the administration receives any remuneration for his services; and we refuse to tolerate the use of any office in the Society for personal gain or advancement.

"The period of expansion and reorganization is largely over. The future holds steadily increasing promise for the A.S.C. and its members. The work of the Board, the Officers and the Executive Committee for the economic benefit of the members is now thoroughly understood, and proceeding with perfect precision. The cultural and social activities of the Society are being resumed with increased energy, for we have no intention of losing sight of the importance of keeping our members abreast of the professional and technical advances of the day. The American Society of Cinematographers has always been first to investigate every new development, and to afford to its members the latest and most authentic information on all such advances, and it will continue to do so.

"It has never been my way, however, to offer words where actions are more eloquent: therefore, I say, as I said when I first took office, that my administration will speak with results—not promises. Results are the criterion

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Ray June, A.S.C.

Mood Must Be Predominating Effect Says June

by
James L. Fritz
Formerly Dramatic Editor St. Louis Post-Dispatch
and New York Daily News

WHEN trying to discover the one quality which Ray June strives to inject into his work, we must take into consideration that June does not look to any one effect, but to all of the vitalic qualities which go to making the product of the present day cinematographer a thing of beauty and perfection. On the other hand, June tells us that although he constantly strives for all of these qualities, it is the mood to which he gives particular attention. Because, when the cinematographer succeeds in transplanting his feeling of the mood of the subject, he then automatically succeeds in projecting these other qualities onto that thin strip of celluloid, which becomes a reproduction of life in the theater.

To obtain the proper mood of any story or subject, the cinematographer must first understand and obtain the coincidence of lighting and the blending of shadows with the true perspective of the story and subject. It is for this reason that Ray June prefers to work on musical comedies and light melodramas. In these types of productions, the cinematographer is allowed a greater scope in his interpretations of moods. The undercurrent and mood of the subjects are ever-changing, and the fast moving trend of the story told in these pictures, never allows the subject to lapse into a dull, drab monotone.

When striving constantly for the proper mood, June believes that the cinematographer cannot escape humanism in his work. The bleakness of loneliness is not to be endured in motion pictures. If man is absent in the subject, then consciousness and life are there, somehow. If the idiom of today has been utilized, we may all read in our common language, an unblurred message in every cinematographic interpretation. There is no reason why this should not appeal to the masses. In the tastes of the many, is a fund of detail, suitable for expression as any subject which could be conjured in the mind. Detail, it is true, is valuable to remind us that we walk upon the soil; but the real true greatness resides in unrelated detail. Here, the cinematographer shows his greatest ability in creating originality.

Originality in a cinematographic product is not only necessary and vital, but it is stimulating to the minds of the audience. It is because of originality in the interpretation of the moods of the story and subject, that the cinematographer and motion pictures have risen to the category of masters who create masterpieces of beauty, entertainment, and vitality. Originality should not seem impossible. It is a basic need to the furtherance of motion pictures. Only the creative mind with superlative technique, can make an ordinary idea seem vivid and fresh. A mass of buttons or a few greasy cog-wheels could scarcely be termed as subjects which afford a great amount of originality, yet, originality in the treatment of these subjects cannot only make them interesting, but a vital thing to the endurance of the subject. Originality obtained through the proper interpretation of the mood, may be engendered by dissipating the fantasms of imaginativeness, criticism and composition to a vitalic interest.

Another point in the obtainance of originality and the interpretation of the mood, is the understanding of rhythm. Rhythm in cinematography is as necessary as rhythm in music. After the cinematographer has developed a sense of it, he feels the sway, the movement and the pulsations that run as an undercurrent in the story. It may be the honey-sweet swaying of a Chopin waltz, or it may have the stirring quality of a Mendelssohn composition and then there may be the hard sophisticated crash of jazz, but whatever the rhythm contained in the story and subject, the understanding and feel of it, on the part of the cinematographer, is vital to the true interpretation of the mood.

Even the weak and trivial subjects have interests and values that the traditional arts leave untouched. Music alone, has heretofore represented movement through time, but the motion picture synthesizes movement through both time and space and the very fact that it can co-ordinate visual images, with sound, and releases both of these elements from the boundaries of apparent space and a fixed location, it contributes something to our picture of the world, not given completely in direct experience. June tells us that the cinematographer, by utilizing his daily experience of motion, can re-create a symbolic form, a world that is otherwise beyond the direct perception or grasp. Without any conscious notion of its destination, the product of the cinematographer presents us with a world of interpenetrating, counter-influencing organisms; and it enables

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Don't Show Them Everything

. . . Is Arthur Miller's Policy

by
Harry Burdick

Arthur Miller, A.S.C.

WHILE Arthur Miller was lensing his current cinematographic work "Black Sheep," a singular circumstance interrupted the smooth, rapid flow of scenes from stage to film. The immediate and ingenious solution is an illuminating instance of the cinematographer's far-extending contribution to contemporary motion picture production, based on his deep-seated knowledge of the mechanics of his profession.

Most of the footage comprising this screen offering depicts action aboard an ocean liner at sea. Studio sets were used, of course. One scene called for an extreme long shot embracing the ship's promenade deck, two hundred and twenty feet in length.

The lighting demands were interesting. All light must enter from one side, simulating the brilliance of reflections from the water. With the camera ready to grind, it was abruptly realized that a ship plowing through sea has a natural roll. How to achieve this effect? The set was built on the solid studio floor. Rocking the camera didn't answer.

So Miller dug down in his bag of light legerdemain. He had no top lighting; it was all side lighting. He mounted his lights on hastily constructed see-saw devices. A small army of electricians was recruited. They pushed down in unison. The lights were elevated. Releasing their pressure, the lights descended. Against the scene's entire two hundred and twenty feet the light rose and fell with rhythmic regularity—and for all the world, that ship was gently rolling against the sea's mirrored glitter.

Further display of Miller's resourcefulness emanating from his thorough comprehension of cinematographic technicalities was manifest during the shooting of his "White Parade," one of last year's outstanding photographic successes. A scene included the hospital nursery containing fourteen practically brand-new babies, each but forty-eight hours of age. Strong light is not for eyes of so brief existence.

Miller went into a close huddle with his laboratory chief. Then he lighted the scene in a very low key, the laboratory forced development of the negative and on the screen it appeared bathed in light. Nary an infant blinked or squinted.

Out of Miller's quarter-century experience with motion picture cameras, he has evolved a definite philosophy of cinematography. The advent of sound strengthened it. Voltaire wrote, "The secret of wearying your reader is to tell him everything." Miller paraphrases it, "The secret of wearying your audience is to show him everything."

He is ever acutely aware that audiences have imagination. He plays to that mass imagination. Never is his screen crammed with vivid detailed depiction. He reveals just enough, not a fraction more—and makes the audience put its imagination into play.

Nowadays, he feels, the audience sees and hears everything that a projectionist can toss into the theater. It becomes satiated with the fullness of the fare. Nothing remains but for the audience to sit there and take it.

Miller might be termed a repressionist, for he has mastered that most difficult of all arts—the beauty, dignity and cultured charm of leaving things untold and of knowing what things to leave untold. It takes courage to stop, just in time. It requires utter confidence in the adequacy of one's vehicle of expression to avoid the so-common trait of redundance.

Besides, Miller believes the audience enjoys exercising its imagination—of attributing to characters on the screen qualities of its own preference.

Miller subscribes to the creed that men and women, and children, too, go into motion picture exhibition halls to escape from themselves. They seek entertainment in the land of make-believe for an hour or two. So he strives, deliberately and with malice aforethought, to cause them imaginatively to participate in the actions screened before their vision.

He wants them to imagine themselves in the hero's or the heroine's position and to experience within themselves the drama that unfolds. He fails of this purpose, he avers, if he engraves on the screen a cold-cut, sharp-edged scene so ample in detail that nothing remains for the audience but to gaze with stifled imagination. Remembering always there is a sound track bearing dialogue that fills every crevice not already covered.

He believes that despite the pushed-back horizons which sound has introduced in picture production it is pri-

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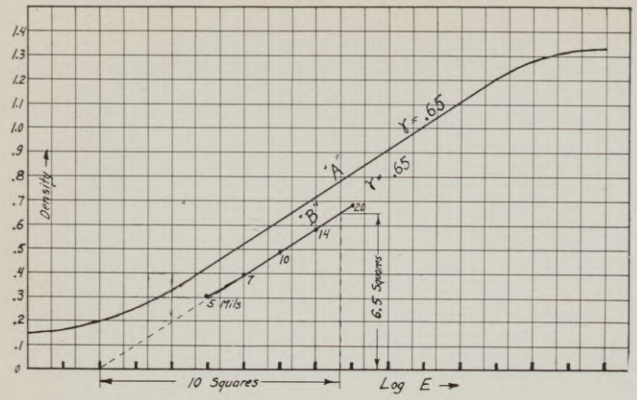

Glow-Lamp Sensitometry

by
Glenn H. Dorsey
Engineer, Hollywood Motion Picture Equipment Co., Ltd.

IN SEARCHING for some way to make it easier for the small laboratories to process glow-lamp recording, we have settled on the expedient of using the glow-lamp itself to print the sensitometric strip. The method is extremely simple and requires no extra equipment other than the densitometer which is part of every laboratory. We will even show how that over-all gamma may be checked by those laboratories whose equipment does not even include a densitometer.

Countless measurements and experiments extending over a period of several months have proved to us conclusively that the high voltage glow-lamps which we use and supply with our sound recording equipment have a light intensity versus current curve which is absolutely linear. That is to say doubling the milliamperes of current thru the glow-lamp will exactly double the light intensity emitted by it. Now that this important fact has been established and proved, we will show how it can be used to make the sensitometric strip.

A short review of the sensitometer as built by Eastman Kodak Company is now in order. This is a machine containing a light source and revolving drum type shutter. When the shutter is tripped it makes one revolution, exposing the film thru this drum shutter which has graduated steps cut in it. Each step printed is exposed 1.41 (or $\sqrt{2}$) times as long as the preceding lighter one. Every other step is therefore exposed twice as long as the second one preceding it. When this strip is developed and the density of each step plotted on graduated paper, the gamma of that batch of emulsion in that particular developer soup at the same time, temperature, and agitation is available. Please note—only that emulsion in that same developer or strength developer with the same time, temperature, and agitation. In the Hollywood laboratories it is the usual practice to print a sensitometric strip on the end of each roll of sound track negative.

Now we take our glow-lamp recorder and make short pieces of unmodulated film. One at 5 mils, one at 7 mils (7.05 mils is 1.41x5), 10 mils, 14.1 mils, and 20 mils. The next steps would be 28.2 and 40 mils, but they are beyond the range of the usual 25 MA meter used on recording amplifiers. This film you develop at the standard time, temperature, and etc. used at your laboratory for developing sound track negative. The density of each piece of track is then measured on a densitometer. It is best to make several readings on each test piece and to strike an average for that piece.

In the absence of regular sensitometric printed paper any square ruled paper may be used. Say the paper you have is ruled in ½-inch squares. Starting from the bottom of the paper each square will be .10 points of density, running from 0 to 1.00 at 5 inches from the bottom. Along the bottom of the paper mark off every 1½ squares or every ¾ inch.

The measured densities of the test film are next plotted against the log of the exposure. And since each step of our exposure is $\sqrt{2}$ times the preceding one, eliminating the necessity of using log tables, our exposure steps will each fall the same distance apart along the base, at the ¾-inch intervals. Our series of points should fall like those in the illustration marked "B." Note that the lower two points are flattening out, showing the "toe," or region of underexposure of the film. Notice how this toe corresponds to that on curve "A," made from a regular sensitometric strip printed on the same piece of film. If a straight line is drawn thru the upper part of the series, we get a curve representing the gamma or contrast of this film and developer. Continue this line across the paper and count the squares height of the triangle for a base length of 10 squares, or 5 inches. The height of this triangle is the direct value gamma of this test.

Gamma is defined as the resultant density range divided by the log of the exposure range. It could also be expressed as the tangent of the angle the straight line portion forms with the base line. Reduced to simple grammar, it is the mathematical expression for the film contrast obtained from a scale of given exposures in a given developer.

If short pieces of these tests are spliced together, printed at a constant printer light, and then developed at your standard print time and temperature, the transmission percentages of the print should match the original exposures. That is to say, every other step should pass twice as much light as the second one preceding it for an over-all gamma of 1.00. The standard Hollywood practice is to have an over-all gamma of from 1.05 to 1.10, to allow for printer and projector losses.

Normally in glow-lamp recording the 5 mil unmodulated track is developed to 50% transmission, or .30 density. If gamma tests show that the negative must be developed to a gamma higher than .70 to reach this density, one of two things is at fault. The glow tube may be losing its actinic light emission. When viewed in subdued light its color should be pure blue, a pink or reddish cast denotes old age or abuse. Examination of the end of the tube in sunlight may show a yellow tinge on the tip, this shows that the tube has been used at current densities of 20 mils or over, sputtering the electrodes onto the glass. This yellow tinge acts as a yellow filter in front of the blue glow-light, cutting its output of actinic light as much as 80% in some cases. Or, if the glow-lamp appears in

(Continued on Page 196)

SOME FAST "PANS"

"Weep No More!"

● M.G.M. furnishes its camera crankers with a very charming wailing wall in the person of Miss H. Gosson, secretary to Johnny Arnold. Since she took over the duty of lending her shapely shoulders to woeful winders of de ole black box, she has listened to over 500 confidential tales of woe. She gets an average of three a day. Len Smith has the best score to date. He has seen her every day for the past 9 months. (Mayb it's heart trouble.)

"The Lemon King"

● The best time to plant lemon trees is in a very hard rain. We can be sure of it, because Art Todd is an authority on lemons. (For those who don't know what a lemon is . . . It is the citrus fruit with that yellow peel you find in high-balls) . . . We met Art on the set and asked him how he liked the rainy spell.

"Just fine," he sniveled, "I spedt da whole timb out on by ranch blanting lebon trees," he grinned at us and nodded happily. "Yes, sir, I had da bes' timb . . . I blanted biles ad biles ad biles of lebon trees" . . . We left Art before he could get enough wind to go on (the old adage that camera men don't have to be crazy . . . but it helps, seems to be proving out.)

"Won't You Sit Down, Tony?"

● AS SOON as Tony Gaudio finishes the last shot on his current picture for Warner Bros., he is going to visit friends in Texas where he will do a little plain and fancy bronco bustin' . . . well, at least he is going to learn to ride a horse.

"Maybe It's News"

● Flash . . . Stockholm, Sweden . . . Aktb., Svenek Filindustri (you pronounce it . . . I wonder how the proof reader is going to know if this is spelled right) has just erected its thirteenth cinema house. The gigantic structure will accommodate 800 people . . . (imagine that) and it is the largest theater in Stockholm. (so you see, not that it matters, but they have press agents in Sweden.)....

"Local Boy Makes Good"

● FRANK BURGESS proved to those who would be interested that he has the makin's of a 'tops' film feeder, when he received an honorary membership to the 8mm Club on the merit of a super colossal 8mm (Mammoth Movie) he recently ground out . . . The Tiny Tintype is veddy veddy original in its composition, and Frankie deserves lotsa congrats . . . A tip to the 'ole' Acd'y Moom Pitcher Arts Etc . . . Better brush off 'dat ole Award' for little Frankie in 1935 . . .

"Don't Tell Mrs. Cinematographer"

● OLLIE MARSH looks just too, too sweet in his pink bungalow apron. His wife, who has been very ill for the past several days (we're really sorry, Ollie) has been unable to leave her bed, so our hero has been playing nurse-maid to the two children, learned to cook, and tells us that if his flutter half is incapacitated much longer, he will have become a proficient seamstress and will develop house-maid's knee.

"Hair, Hair!"

● HAROLD MARZORATI is hairing all sorts of ribs these beautiful days . . . (the Chamber of Commerce gave me five bucks to say that). It seems that Harold purchased a new brand of hair tonic which had directions advising use every three hours . . . well, Harold, who is a stickler for directions, forgot where he was and pulled the bottle out while on the set and began dousing his slightly bald head . . . now he's losing more hair worrying about how he's ever going to live it down.

"The Van Trees Are a Bit Puffed Up"

● JIM VAN TREES, the elder, caught the one that didn't get away . . . he is proudly showing friends a snap-shot of a 28½-inch steel head trout which he caught last week end in the Sespe . . . (we have the picture . . . Ha, Ha) and Jim, Jr., is showing the same friends a picture of a male bundle from heaven with which his income tax exemption presented him. You can't tell which of the Jims is

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James L. Van Trees, Director of Photography, member of the American Society of Cinematographers and fisherman extraordinary.

PHOTOGRAPHY of the MONTH

"CHASING YESTERDAY" (Radio)

Lucien Andriot, A.S.C.: Directing Cinematographer

Hollywood Reporter (March 21, 1935): "For its good points the picture has unusually fine photography by Lucien Andriot——."

Daily Variety (March 21, 1935): "Meritorious contributions are also made by Lucien Andriot's appropriate photography——."

"A NIGHT AT THE RITZ" (Warners)

James Van Trees, A.S.C.: Directing Cinematographer

Hollywood Reporter (March 22, 1935): "Photography is okay."

Daily Variety (March 22, 1935): "Picture has been well photographed——."

"DEATH FLIES EAST" (Columbia)

Al Siegler, A.S.C.: Directing Cinematographer

Hollywood Reporter (March 22, 1935): "——and Siegler's photography is good."

"STAR OF MIDNIGHT" (RKO)

J. Roy Hunt, A.S.C.: Directing Cinematographer

Daily Variety (March 25, 1935): "Photography of J. Roy Hunt is excellent."

Hollywood Reporter (March 25, 1935): "Photography is first class."

"IT'S A SMALL WORLD" (Fox)

Arthur Miller, A.S.C.: Directing Cinematographer

Daily Variety (March 25, 1935): "Arthur Miller's photography is especially well adapted to the type of material."

Hollywood Reporter (March 25, 1935): "Photography is well abreast of the picture's requirements."

"STOLEN HARMONY" (Paramount)

Harry Fischbeck, A.S.C.: Directing Cinematographer

Daily Variety (March 26, 1935): "Photography of Harry Fischbeck is exceptionally good."

Hollywood Reporter (March 30, 1935): "Photography generally is good with some tricky dissolves that really help the action."

"LES MISERABLES" (United Artists)

Gregg Toland, A.S.C.: Directing Cinematographer

Hollywood Reporter (March 30, 1935): "This effect is further carried out by the exquisite photography by Gregg Toland. He has captured each moment as though it were a painting in movement and his close-ups are portrait-like."

Daily Variety (March 30, 1935): "Gregg Toland's photography is of exceptional merit. He uses the camera intelligently and in some episodes with positive inspiration to emphasize the spiritual phases of the drama."

"RECKLESS" (M-G-M)

George Folsey, A.S.C.: Directing Cinematographer

Hollywood Reporter (April 1, 1935): "The photography by George Folsey is beautiful."

Daily Variety (April 1, 1935): "Photography of George Folsey is excellent."

"THE HOOSIER SCHOOLMASTER" (Monogram)

Harry Neumann, A.S.C.: Directing Cinematographer

Hollywood Reporter (April 2, 1935): "Harry Neumann's photography will make any part of 'The Hoosier Schoolmaster' easy to watch."

Daily Variety (April 2, 1935): "Harry Neumann has done a top-notch job with his camera."

Film Daily (April 9, 1935): Photography "Very good."

"THE FLORENTINE DAGGER" (Warner Bros.)

Arthur Todd, A.S.C.: Directing Cinematographer

Daily Variety (April 5, 1935): "Arthur Todd handles his camera effectively."

"SPRING TONIC" (Fox)

L. W. O'Connell, A.S.C.: Directing Cinematographer

Daily Variety (April 5, 1935): "Photography is okay."

"THE UNWELCOME STRANGER"

John Stumar, A.S.C.: Directing Cinematographer

Hollywood Reporter (April 8, 1935): "Photography is good."

Daily Variety (April 12, 1935): "John Stumar has contributed some corking good photography, particularly the shots of Searl astride a fast-moving horse."

"PARTY WIRE" (Columbia)

Al Siegler, A.S.C.: Directing Cinematographer

Hollywood Reporter (April 11, 1935): "Al Siegler's photography is gorgeous."

Daily Variety (April 11, 1935): "Photography is good."

"THE CASE OF THE CURIOUS BRIDE" (Warner Bros.)

Dave Abel, A.S.C.: Directing Cinematographer

Daily Variety (April 12, 1935): "Dave Abel has done a good job with the camera."

"DOUBTING THOMAS" (Fox)

Joseph Valentine, A.S.C.: Directing Cinematographer

Daily Variety (April 12, 1935): "Photography is standard."

"EIGHT BELLS" (Columbia)

Joseph Walker, A.S.C.: Directing Cinematographer

Hollywood Reporter (April 12, 1935): "Joseph Walker's photography is very fine."

Daily Variety (April 13, 1935): "——which the excellent photography by Joseph Walker does much to enhance."

"G-MEN" (Warner Bros.)

Sol Polito, A.S.C.: Directing Cinematographer

Daily Variety (April 17, 1935): "Photography by Sol Polito adds much to the picture."

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FASTER

MUCH faster than regular Eastman Super Sensitive "Pan" under tungsten light. Faster even than that famous film is when *hypersensitized.* That is half of the news about Eastman Super X Panchromatic Negative. The other half: Eastman Super X shows no increase in grain size over Super Sensitive "Pan"... in fact, the tremendous gain in speed has been achieved without sacrificing or impairing any valuable characteristic. ... You are invited to investigate the most striking film improvement since the advent of the first Eastman Super Sensitive emulsion. Eastman Kodak Company, Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, New York, Chicago, Hollywood.)

EASTMAN *SUPER X*

PANCHROMATIC NEGATIVE

Eastman Super X Panchromatic Negative Motion Picture Film

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Another interesting feature of this new film is the fact that it differs very slightly from Super-sensitive negative in its color sensitivity characteristics. The Super X negative is of the general super-sensitive type of sensitizing and proof of the fact that it matches very closely the Super-sensitive film is obtained upon examination of the following table of filter factors. These factors were computed under identical sensitometric conditions for both films and were substantiated by actual camera exposures.

Comparative Filter Factors to Daylight

Filter	Super-sensitive	Super X
Aero 1	1.25	1.25
Aero 2	1.50	1.50
3N5	4	4
5N5	5	5
G	3	3
23A	3	4
25	4	5
58	6	6
47	6	5

In Figure 3 prints from wedge spectograms are shown for each of the two negatives. It will be observed from these that the difference in color sensitivity is very slight.

As was indicated earlier in this article, samples of this film have been distributed to all types of departments using negative film in the motion picture industry. At the time of this writing, five weeks after its introduction, there are six feature pictures being made with this film. The screen results have been excellent and every cameraman using the film does so by his own choice and as the result of comparative tests between Super X and other types of negative materials. It is our feeling, therefore, that the practical results are definitely indicative of the quality of the film. Very successful results are also being obtained on this material in photographing, for example, actual night exteriors, miniature shots with high speed cameras, and projection background composite exposures.

Glow-Lamp Sensitometry

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good condition, the film you are using for recording stock may be of too slow speed. With the sound recording stock we are getting at present in Hollywood, it is necessary to pull the glow-lamp back ¼ inch from the slit-block to avoid overexposing the film and with the shorter development necessary to control the density too low a gamma value is obtained.

Now for those laboratories without a densitometer. Make a test piece of film

A. S. C.

Second Annual

Golf Tournament

Brentwood Country Club

Sunday, May 12, 1935

Open to all A. S. C. Members

Green Fees, Luncheon, and Refreshments, $1.75

TOURNAMENT COMMITTEE

Chas. Lang, Faxon Dean, Allen Siegler, Leonard Smith, Virgil Miller, Fred Jackman, Norbert Brodine, Richard Davol, Milton Brown, Tony Gaudio, Bert Glennon, Peverell Marley, John Arnold, Edw. O. Blackburn, King Charney, Wesley Smith, Bud Courcier, Hollis Moyse, Geo. Gibson, Wilson Leahy.

Trophies and Prizes! Remember Last Year!

Secure Entry Blanks from Camera Departments or A.S.C. Office

Entries Close May 9, 1935

Make your reservations NOW

Remember

"EARLY BIRDS GET THE BEST WORMS"

First Foursome Tees off at 7 A.M.

at 10 mils lamp current and another at 20 mils. These points are chosen arbitrarily because they should be safely up on the straight-line portion of the film H & D curve. Develop this neg the standard time you have been using for sound track negative. Print these two strips at the average printer light you have been using, then develop the print your average time for prints. Now if your over-all gamma is near 1.00 you should be able to view a piece of print from the 10 mil track beside a piece of the 20 mill track print, folded double, with apparently the same density to the eye. If the doubled 20 mil track appears lighter than the 10 mil track the over-all gamma is more than 1.00, if darker, less than 1.00. The general practice is to have the over-all gamma slightly more than 1.00 to allow for recorder, printer, and projector losses.

Corrective Makeup as an Aid to Cinematography

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artists. Virtually every feminine player on the studio's contract list has her specially prescribed corrective makeup; and the same course is followed with players borrowed from other studios, or engaged for a single production. Regardless of the player's natural beauty, we have found that this system of makeup can be used to advantage, for even the most completely beautiful woman has some minor irregularities of contour which can be smoothed out in this fashion. The system can be applied with equal success to men, of course, but in practice, we rarely do so, as most of our male stars are of types which benefit by wearing little or no makeup.

In practice, we have found that this system of makeup, far from taking anything out of the cinematographer's control, has proven to be of very definite benefit to the men at the cameras. Our camera staff includes men who are as particular about makeup as any in the world: and they are unanimous in saying that our corrective system of makeup frees their mind of all worries about makeup, simplifies the detail work of personal lighting, and allows them to work more efficiently on any sort of production, from a program film to a "special."

This method can be applied equally well to character makeup; in fact, in several instances it has been used for this purpose. Jean Muir, for instance, in a recent dual role, utilized the system for one characterization, while playing her other part in her regular corrective makeup. Marion Davies, in her current production, "Page Miss Glory," is transformed by the same methods into a plain, unattractive servant. Applying the methods just explained, we made her eyes appear round and washed out, her mouth thin and straight, gave her a most convincing double chin, and created a remarkable pug nose. Not a bit of wax or nose-putty was used, nor a single eye-distorting strap; everything was done by painting upon her face a portrait in grease-paint.

And there, I believe, lies the secret of the whole thing; we are applying makeup, not as a mere covering for a flat surface, but in exactly the same way a portrait painter uses oil paints to depict an apparently three-dimensional face on his flat canvas. Personally, I find my own early experience as a portrait-painter invaluable in this new interpretation of cosmetology. Moreover, I venture to say that such experience will prove absolutely essential when natural-color cinematography comes into its own, as it soon must. In that day, I venture to say that the only makeup artists who survive will be those who have had a thorough grounding in the art of brush and pallette. Corrective makeup has been applied successfully to three-color Technicolor productions; and when we achieve completely perfected color cinematography, it will reach its highest development for then we will be dealing, not with the monochromatic values of the wash drawing, but the full glory of color. And our corrective makeup will then have to be applied as an artist would apply his paints, moulding the face in the most delicate nuances of tone and color.

Mood Must Be Predominating Effect Says June

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us to think about that world with a greater degree of concreteness. This, on the part of the cinematographer, is no small triumph in cultural assimilation. Through the utilization and understanding of these senses, the cinematographer is, in return, given a complete understanding of his camera, its possibilities and its perversions, its capacity for representing objects that interpenetrate, and ability of placing distant environments in immediate juxtaposition and finally to represent and reproduce subjective distortions and hallucinations. This understanding of the machine with which he is working, enables the cinematographer to interpret and capture the moods of his subjects.

These developments in the mind of the cinematographer, are perhaps the fine psychological reason that they, more than anyone else, are able to un-

derstand and visualize the moods and tempos embodied in the story and subject. Ordinarily, we skip over and schematize the objects which surround us in every day life. We relate them to some practical need or subordinate them to some immediate wish. The cinematographer recognizes them in an independent form, created by light, shade, and shadow. He restores to the eye, otherwise so preoccupied with the abstractions of dull existence, an enjoyment of things roundly seen. He, through his product, the motion pictures, gives significance to life's most remote symbols. His is a cult of pure form and segregated esthetic sensibility. The motion picture, with its close-ups, its synoptic views, its shifting events, its ever-present camera eye and its spatial forms, has gradually, since its beginning, developed into a reproduction of life. Vivid in its interpretation of the throbbing undercurrent, the vital rhythm and the ever-changing moods, which are life. The cinematographic product has slowly gained in artistic significance, until, today, it stands as undeniable proof that the cinematographer, although he achieves this perfection with the use of a machine, is as truly an artist as any master of the brush.

John Arnold Starts Fifth Term As A.S.C. Head

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by which I judge, and by which I wish to be judged."

First Vice-President Milner's comment is, "The success of the present administration speaks for itself. We have brought a new spirit into the relations between the Cinematographer and his employer—one of fairness to both sides, of friendliness and cooperation. We will continue this, and bend every effort to keep the Cinematographer now, as ever before, in the forefront of progress. We have minimized the economic problems confronting our craft, and we stand ready to apply the same energy to solving the many technical and artistic problems envisioned in the future."

Past-President Fred Jackman, accepting his election as Treasurer, remarked, "In every way, the condition of the Society and its members is immeasurably better than ever before. Financially, the A.S.C. stands today in a stronger position than at any time in its history. As Treasurer, my special interest will be to strive to keep it on an equally sound basis. Financially, as well as in other ways, the Society has in the past gone through very trying times; thus far, we have successfully weathered every storm, though often only by heroic work and self-sacrifices. That I have today inherited a well-nourished treasury from my predecessor is clearly due to no accomplishment of mine: but I shall bend every effort to deliver the financial affairs of the Society to my successor in as healthy a condition as I have received them.

"The relations between the Cameramen and the Producers have never been on so practical a basis in the history of the Industry. Today, the two groups meet as equals, and attack their mutual problems as friends and co-workers, rather than as employer and employee. The results of this new relationship have been startlingly successful, and are assured of even greater success as time goes on.

"The individual condition of Cinematographers is equally improved. False restrictions which for so long fettered individual progress and stifled initiative have been abolished. In their place is a regime of strict justice and commonsense. Advancement, for example, so

long almost impossible, is once more open to those who deserve it. Merit, common-sense and fairness rule.

"As to the future, it does not take a prophet to foresee that this new spirit is bringing better things for every member of the profession. With both cut-throat competition and unnecessary regimentation abolished, and a new spirit of sincere cooperation ruling inside and outside of the Society, the A.S.C. must inevitably progress to new and better conditions for both the organization and its individual members."

DON'T SHOW THEM EVERYTHING

(Continued from Page 191)

marily a moving picture that he is making. He believes that all the proven principles of cinematography that obtained in the silent days are still too valuable to go unused merely because there is dialogue to help carry the entertainment load.

Fundamentals of dramatic expression by lens and film should not be slighted just because there is a handy crutch in the form of accompanying dialogue. So he puts forth all his ability to convey pictorially every ounce of drama every scene contains. He wants to contribute his full share to the finished entertainment. He knows the sound engineers will do theirs.

And he's not above taking artistic license to achieve his full quota of dramatic effect. Hospital operating rooms, as instance, are skillfully lighted. They are all light, with no shadows to annoy deft surgeons.

They are appointed in cold, scientific efficiency. They actually are settings exuding about the same degree of drama as any other sort of impersonal working place. Yet in his "White Parade" his surgery scenes fairly throb with full-throated drama. He puts deep shadows where no shadows ever existed. He cloaks the cold details so glaringly present in actuality with a mystery that stimulates imagination. And a fierce light beats down on the operative field, focusing dramatic attention to a concentrated spot. It is an intensely gripping scene. Miller made it so. He knows to an amazing degree just how little to reveal; the dramatic worth of simplicity.

Many of the noteworthy effects he gains can be traced directly to his full knowledge of the chemistry that is cinematography. His early years were in that era when studios were built around laboratories and the cinematographer took his pictures, developed his negative and made his own prints. He has kept that intimate contact with laboratory practice. In fact, he has a private laboratory at his home. And at the studio, his closest collaborator is his laboratory chief.

Because of this processing intimacy, he is usually allotted the task of trying out new practices or determining the merit of proposed improvements in material or procedure. His "Black Sheep," for example is the first picture to be shot on the new Eastman Super negative. For your information, he reports it easier to use, requiring fewer lights, faster, giving a noticeably better rendition, particularly in greens and shadows. Sets are easier to light. It lessens light strain on actors and in many cases, particularly with children, makes possible effects not obtainable under heavy light pressure.

Photography of the Month

(Continued from Page 194)

Hollywood Reporter (April 17, 1935): "—but Polito's photography is A1."

"THE DARING YOUNG MAN" (Fox)

Merritt Gerstad, A.S.C.: Directing Cinematographer

Daily Variety (April 17, 1935): "Photography is good."

Hollywood Reporter (April 17, 1935): "Photography up to standard."

"GEORGE WHITE SCANDALS" (Fox)

George Schneiderman, A.S.C.: Directing Cinematographer

Daily Variety (March 26, 1935): "Photography of George Schneiderman is excellent."

"BLACK FURY" (First National)

Byron Haskin, A.S.C.: Directing Cinematographer

Daily Variety (March 26, 1935): "Byron Haskin has handled his camera with power and artistry."

Hollywood Reporter (March 26, 1935): "The photography by Byron Haskin has plenty to do with the success of the picture."

"MISTER DYNAMITE" (Universal)

George Robinson, A.S.C.: Directing Cinematographer

Daily Variety (March 28, 1935): "Photography throughout, handled by George Robinson, was excellent."

Hollywood Reporter (March 28, 1935): "Photography and production top-notch."

"PEOPLE WILL TALK" (Paramount)

Alfred Gilks, A.S.C.: Directing Cinematographer

Hollywood Reporter (March 28, 1935): "Photography by Alfred Gilks is very good."

Daily Variety (March 28, 1935): "Alfred Gilks' phtoography is uniformly good."

"VAGABOND LADY" (M-G-M-Roach)

Jack MacKenzie, A.S.C.: Directing Cinematographer

Hollywood Reporter (March 28, 1935): "Photography is first rate."

Daily Variety (March 28, 1935): "Jack MacKenzie's camera is well handled."

"FOUR HOURS TO KILL" (Paramount)

Theodor Sparkuhl, A.S.C.: Directing Cinematographer

Hollywood Reporter (March 29, 1935): "And add to all that the fine photography by Theodor Sparkuhl — where has this master been all these years?"

Daily Variety (March 29, 1935): "Theodor Sparkuhl uses his camera splendidly."

SOME FAST "PANS"

(Continued from Page 193)

the proudest. Jim, Jr., tells us that soon there will be three shutter openers and closers in the family.

"Shades of Admiral Byrd"

● CLYDE DeVINNA seems to be a short wave D.C., however, Clyde's hobby or mania, as the case may be, has proved to be a great help on previous pictures on far off locations. At present, he has just completed rigging up his short wave set in Tahiti where M-G-M is filming "Typee" and has managed to get in touch with another radio enthusiast in good ole Hollywood who transmits al' messages to Clyde's wiff. During the shooting (and we mean shooting) of "Trader Horn," it was Clyde who got the message through that Edwina Booth was dangerously ill and told the company's whereabouts, so that medicine could be sent by runner from the coast.

"Time Marches On"

● And speaking of beneficial hobbies, there's Johnny Arnold, who is at present experimenting with a new super-process screen, 33-38 feet. This new flicker sheet will make bigger and better things possible in the jumpies. It will allow

twice as much light to come through than the present type does. According to Johnny, the new screen, when perfected, will result in the filmenagerie colony producing moom pitchers with larger sets, more action and of a far better quality . . . (well, hurry up, Johrny, Lord knows we need it.)

"Well, Maybe"

● We hear that Charlie Clarke, grinding "Mutiny on the Bounty," weathered a ten day sea voyage to location in the south seas that was flavored with typhoons and mountainous waves without once swallowing his breakfast twice. However, here's the gag, the day after arrival, Charlie hired one of those outrigger canoes to do a little early morning fishing . . . After two hours on the bounding main in the double-barreled skiff he got so sick that he was confined to bed for a day.

"Maybe Again . . . But There's Witnesses"

● It seems that Karl Struss was out tearing the turf at the Lakeside weed chopping grounds, one of those days when he wasn't shooting camera curves of La West. Carl stepped up to the sixth, disregarded his caddy's advice, and smacked a hole-in-one with a niblick. Now Carl is proudly gathering loot donated by various manufacturers for such a feat . . .

CORRECTION

Last month on page 145 the caption with the illustration stated the scene was from the Warner production "Oil for the Lamps of China." It should have been credited to the production "Go Into Your Dance," according to Tony Gaudio.

R.C.A. Drops Reeves Suit

● According to a statement made by Art Reeves of Hollywood Motion Picture Equipment Co. of Hollywood, manufacturers of the Artreeves Sound System, the R.C.A. who instituted suit against his company in 1933 alleging infringement of sound patents have withdrawn their suit from the courts. This means according to Reeves that he can continue the manufacture of his sound equipment for sale in this country without infringing the R.C.A. patents.

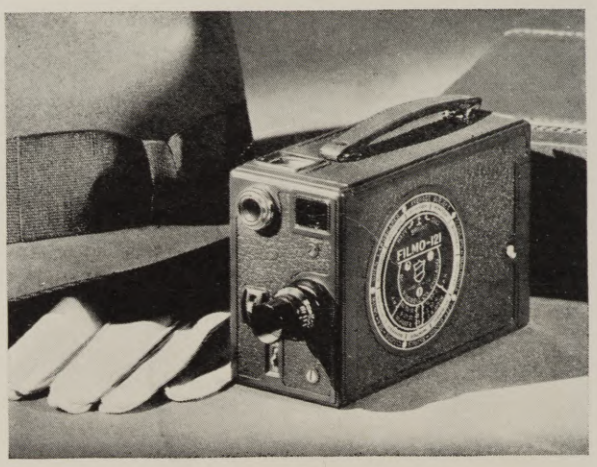
What You See, You Get with these four Filmos

The human eye, after all is said and done, is the standard for which all photography reaches. Filmos approach this perfection, we honestly believe, more closely than any other movie cameras.

The Filmo 121 Camera

Magazine Loading . . . Feather Weight . . . Invitingly Small

Loaded in an instant...No threading...Just insert the film cartridge...Change from color film to black and white or vice versa any time, anywhere...Takes any Filmo 75 Camera lens...With adapter ($2.50) takes any Filmo 70 Camera lens...Oscillating shutter gives absolutely uniform exposure over entire frame...Two speeds: 16 and 24 ...Single-frame exposures...Two viewfinders: spyglass and waist-level...Built-in exposure chart...Small: only 2¼ x 3½ x 5¼ inches...Light: weighs only 2 lbs. 5 oz. *Write for detailed literature* • PRICES: With Cooke 20 mm. F 3.5 universal focus lens, $67.50; With Cooke 1-in. F 1.8 lens, $99.50; Leather carrying case, $7.50.



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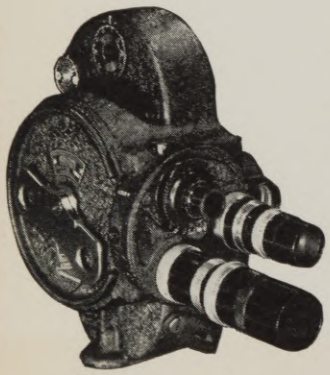

The Filmo 70-D Camera

3-Lens Turret . . . 7 Film Speeds . . . Variable Viewfinder

Built like a fine watch. 216° shutter opening, giving 1-27th second exposure at 16-speed. Seven film speeds — 8-12-16-24-32-48-64. Three-lens turret, variable spyglass viewfinder giving (instantly) field areas of six different focal length lenses. Critical focuser (optional). Capacity—100 feet of 16 mm. film. There is no finer or more versatile 16 mm. movie camera for general use. Many attachments available (including motor and external magazine) for semi-professional work. Price, $225 up, with Sesame-locked carrying case.

The Filmo 70-E Camera

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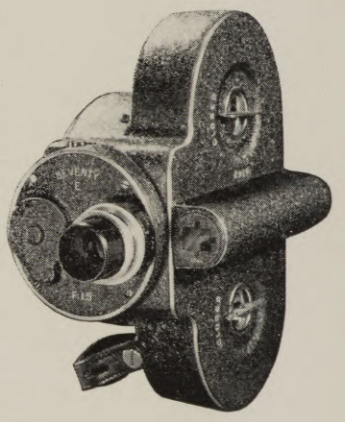
Four film speeds—8 to 64 frames. Regularly equipped with a Cooke 1-inch F 1.5 speed lens, making possible perfectly exposed movies under the most adverse lighting conditions. By adding Kodacolor filter, gives fine Kodacolor results. The F 1.5 lens is instantly interchangeable with any Filmo 70 telephoto, speed, or wide angle lens. Basic operating mechanism is the same as that in the Filmo 70-D Camera—precise, skilfully designed and manufactured. An efficient utility camera where turret head and variable viewfinder are not required. Price, with case, $185; with F 3.5 lens, $150.



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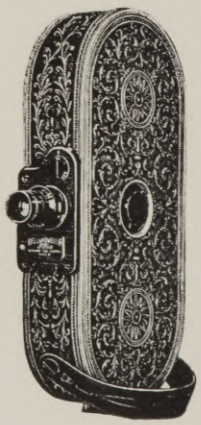
Now priced at $59.50, the slender and patrician Filmo 75, built fully to Bell & Howell standards, establishes a new record for dollar for dollar value in the 16 mm. field. Measures only 1⅝ x 4 x 8¾ inches. Full 100-ft. film capacity. 20 mm. F 3.5 Cooke lens, interchangeable with speed and telephoto lenses. Spyglass viewfinder, adjustable for field area of lens. Winds like watch with ratchet key. Covered in pebble-grain or filigree fabric leather. Leather carrying case, $5.50.



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Filmo *Professional Results With Amateur Ease*

PERSONAL MOVIE CAMERAS AND PROJECTORS

AMATEUR MOVIES

this issue

New Eastman 16mm Color Film
Special Effects with Reversal
A "Documentary" Film
New 16mm Professional Camera
. . . and other features

May, 1935
PRICE 25c

THE FILM OF FILMS
FOR GENERAL OUTDOOR MOVIES

THERE *is* an ideal film for general outdoor movies—it's Agfa 16 MM. Fine-Grain Plenachrome Reversible.

It combines full orthochromatism, high speed, exceptionally wide latitude and a truly effective anti-halation coating. Speed is approximately that of 16 MM. Panchromatic. Sensitivity includes all colors except spectral red. Extremely fine grain makes possible large-size projection *without loss of detail.*

Use Agfa 16 MM. Plenachrome. 100-foot rolls—$4.50. 50-foot rolls—$2.75. Including processing and return postage in U.S.A.

Made by Agfa Ansco Corporation in Binghamton, New York.

AGFA 16 MM. FILMS

Agfa Fine-Grain Plenachrome:
100-foot rolls **$4.50**
50-foot rolls **2.75**
Including processing and return postage.

Agfa Panchromatic Reversible:
100-foot rolls **$6.00**
50-foot rolls **3.25**
Including processing and return postage.

Agfa Fine-Grain Superpan Reversible:
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50-foot rolls **4.00**
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Agfa Fine-Grain Panchromatic Negative:
100-foot rolls **$3.50**
Developing not included

200-foot and 400-foot rolls (laboratory packing) available.

Agfa Ansco processing laboratories are located in New York, Chicago, Kansas City, Los Angeles and Montreal.

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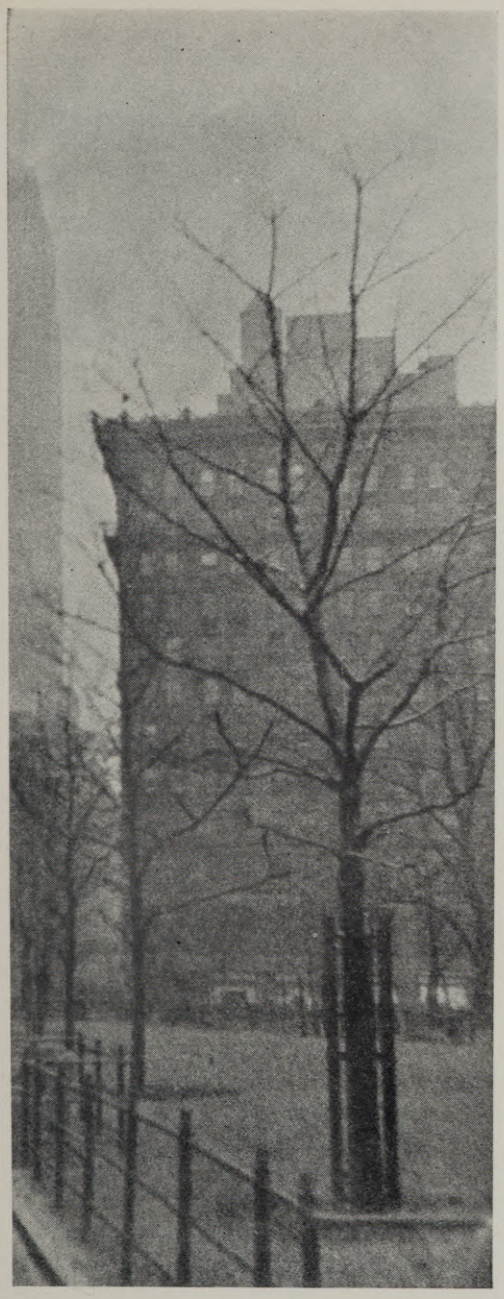


AMATEUR MOVIE SECTION

Contents . . .

Next Month . . .

- There will be a continuity suggestion that will be of interest to every home movie user.
- Members of the A.S.C. will contribute timely and interesting articles that will prove instructive to the amateur.
- Things of a technical nature will be discussed in such a way that will not only nterest but benefit the amateur.

PROFESSIONAL Criticism of the Amateur picture is a part of the service offered by the AMERICAN CINEMATOGRAPHER. Many are not aware of this. Hundreds of pictures have been reviewed this past year by members of the American Society of Cinematographers for the Amateur.

Eastman's New 16mm Color Film Sensational

THOSE who have seen the new Eastman Kodachrome 16mm color films claim it the finest commercial color to reach the motion picture screen up to the present time.

Many connected with the motion picture profession in Hollywood hail it as even better than Technicolor. With this film it is now possible to take pictures indoors. The skin texture and the reproduction of the coloring in the human eye, face and hair are said to be sensational. This means the amateur no longer must seek out flower beds, but can obtain beautiful colored pictures of his family and friends.

Eastman announces this film will be placed on the market on May 1st and will retail for $9.00 the 100 feet, and will be supplied in 16mm reversal stock only.

Whether it ever reaches the professional market and be used in 35mm will undoubtedly depend upon future arrangements to be made between Eastman and Technicolor as it is claimed there are over-lapping patents.

This makes color film available for every 16mm camera. No special filters are required either for photographing or projecting. The speed is such that even the cameras with the very slow lenses can use this film.

The exposure required is somewhat more than that of the ordinary panchromatic film used for making black-and-white pictures. It is recommended the next larger stop be used than would be used for black and white.

For ordinary pictures, no filters or other attachments are required in the camera; but Eastman provides two camera filters for special purposes. One of these is used for photographing objects at a great distance, objects which in ordinary photography would be obscured by haze. The filter, in fact, plays the same part as the yellow filter used with panchromatic film; but it would, of course, be impossible to use a yellow filter, that would affect the colors. The filter used absorbs ultra-violet light only. If no such filter is used at great distances, objects will appear too blue, owing to the scattered ultra-violet light, which will record on the film as if it were blue light. Occasionally, this haze-cutting filter is useful for objects at a medium distance. For instance, when there is snow on the ground the air seems to be full of scattered blue light and the picture will be a little too blue unless the ultra-violet light is absorbed.

A filter is desirable if pictures are taken by artificial light, since otherwise the pictures will appear altogether too yellow or red. This filter is of a light blue color adjusted to compensate for the yellowness of the artificial light source.

At the present time, and probably through 1935, the processing will be done only at Kodak Park.

Up to the present Eastman has not been able to arrange to make duplicates. It is not improbable that eventually they shall succeed in making duplicates; but this requires a good deal of special study.

They are also not yet prepared to supply Kodachrome film in other sizes than 16mm—not because it is impossible to do this but because up to the present they have only been able to construct the necessary processing machinery and to work out the methods for the 16mm film.

The introduction of the new Kodachrome process seems likely to mark a great step in the history of photography, as the possibilities of the new process appear very great.

Following is a technical description of the film itself and the process of developing furnished us by Dr. C. E. Kenneth Mees, A.S.C., of Eastman Kodak Co.:

"All practical processes of color photography depend upon the division of the light into three components, red, green, and blue-violet. Pictures are taken by these three components and are then combined by some method in order to give the finished color picture.

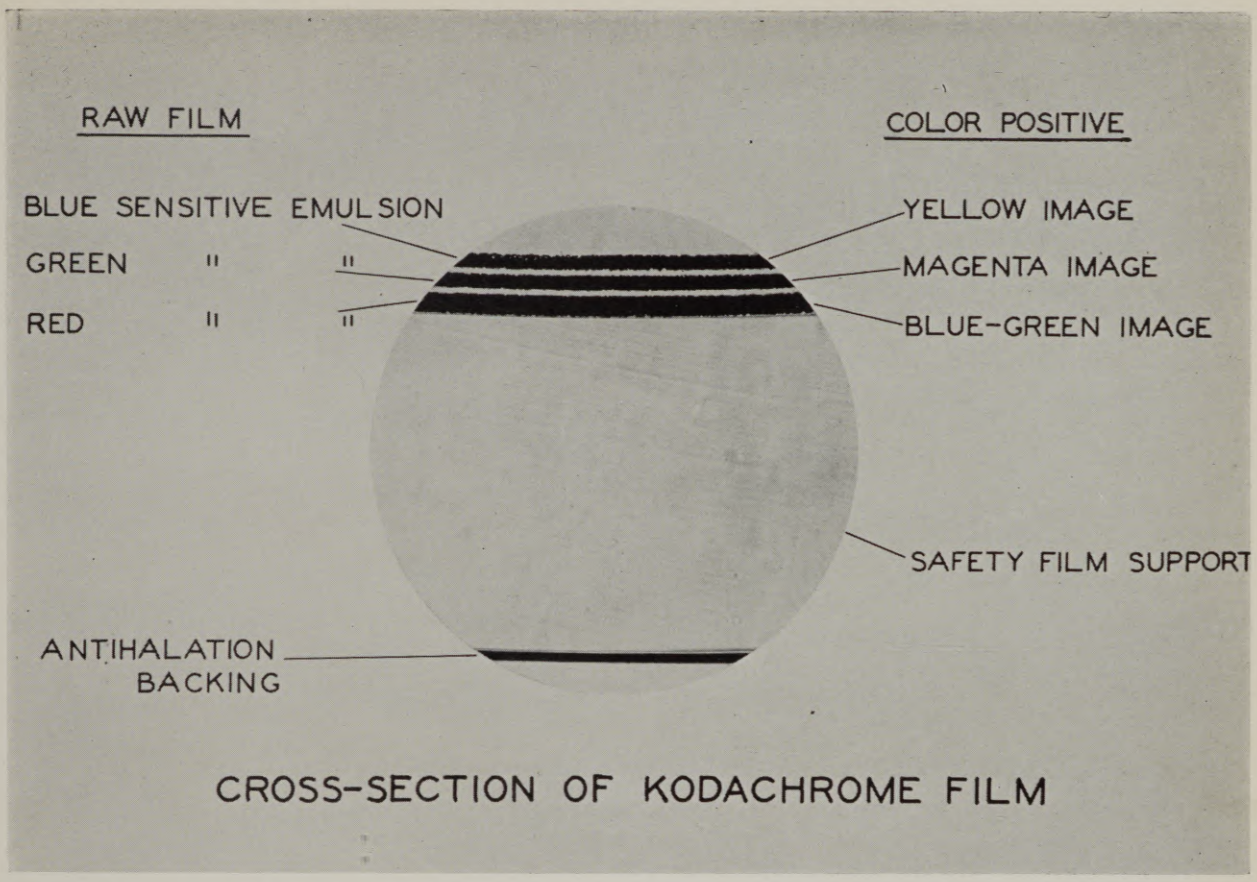
"Color processes are divided generally into two classes: the additive processes and the subtractive processes. In the first, the three components are combined by direct addition of colored images; in the second, the three components are combined by printing each negative in a color complementary to that which was used in taking, and these colored prints are then superimposed.

"In the classic experiment in which Clerk Maxwell demonstrated the additive process of color photography at the Royal Institution, he showed three pictures of a colored ribbon taken by light of the three primary colors, and he projected positives from his original negatives in superposition upon a screen, each of the positives being projected through a color filter of the same color as that used in taking the negative. With modern materials and filters, this method will give an excellent reproduction of a colored object. It requires very complicated apparatus, however, and is obviously a clumsy method of obtaining a color picture.

"Another type of additive process is that which is termed the 'screen-unit process.' In this, a screen is used over the whole area of the film, which is composed of very small color units—red, green, and blue. A photograph is taken through the screen and is thus split up into tiny areas, each of them taken through one of the three preliminary filters. On projection, these areas cover the entire picture with little spots of colored light. If a red object be photographed, for instance, the film will be fully exposed behind the red units of the screen but will not be exposed behind the blue and green units, and after reversal, the green and blue units will be blocked out by the black deposit of silver, while the red units will be projected in full brilliancy and will thus produce a red area on the screen corresponding to the red object which was photographed.

"This process has the advantage that the film can be used in any camera, exposure can be controlled in the ordinary way with a diaphragm, and the film can be projected in any projector. Its practical disadvantages are confined to the screen pattern, which is apparent on projection, to the absorbtion of light by the screen unit, which involves a considerable loss in brightness, and to the cost of the special screen-unit film.

"In the Kodacolor process, which has been very successful for amateur cinematography, the color separation



CROSS-SECTION OF KODACHROME FILM

is obtained optically. In the lens of the camera is placed a multiple-color filter composed of red, green, and blue units; and the tiny lenses embossed on the film make multiple images of these three units on the film emulsion. In projection, the same three filters are placed on the lens and a color picture is obtained on the screen. A multi-color image in the form of microscopic colored strips is projected and reproduces the colors of the original.

"Turning to the subtractive processes, if the three negatives are printed as images in colored dye—the red negative as a blue-green image, the green negative as a magenta image, and the blue negative as a yellow image —and these three color images are assembled in register on top of each other, a color picture will result.

"It will be seen that a red color can be obtained either by the projection of light through a red filter on the screen, as in the additive processes, or by the projection of the light through successive magenta and yellow images, the superposition of the yellow on the magenta producing red. In the same way, a green image can be obtained by putting a blue-green one on top of a yellow one, and a blue-violet image can be obtained by putting a blue-green image on top of a magenta one.

"In working the subtractive processes, the three negatives may be taken just as for the additive process, and then positives are printed in some way which enables them to be made of a colored material, the commonest being to make them by printing in bichromated gelatin. By this process, the three negatives can be printed in colored dye, the picture taken through the red filter being printed on gelatin dyed blue-green, the one taken through the green filter on gelatin dyed magenta, and the one taken through the blue filter on gelatin dyed yellow. If the three are superimposed in register, the resulting transparent color picture will reproduce the colors of the original subject.

"Subtractive processes of this kind are being used successfully for the projection of theatrical motion pictures in color, but it is clear that to make one print only by this method, as is required in amateur cinematography, would be extremely expensive, whereas once the three negatives have been obtained and a method of printing them has been worked out, the preparation of a large number of prints is not unduly costly.

"The new Kodachrome process is a subtractive process, but the separation of the light into the three components is not accomplished by placing the separate components in juxtaposition. They are separated in depth.

"The film for this process is coated no less than five times! Nearest the base, an emulsion is coated which is strongly **red-sensitive.** This is then over-coated with a separating layer of gelatin containing some dye to act as a filter. Above this is coated a **green-sensitive** emulsion. This is over-coated again with another separating layer. Finally, there is applied a top coat which is **blue-sensitive** and which contains a certain amount of yellow dye. The five coatings are so thin that the total thickness of the film is little more than that of ordinary-line Kodak film.

"The emulsions are so adjusted that the sensitizers do not wander from the layer in which they are coated, so that the bottom layer remains red-sensitive with very little green sensitivity, the middle layer is green-sensitive and is free from red sensitivity, while the top layer is sensitive only to the blue. When a picture is taken upon such a film, the three components are automatically separated in the depth of the coating. The red component is formed in the red-sensitive emulsion nearest to the base, the green component is formed in the middle layer of emulsion, and the blue component forms the image of the top layer.

"In order to obtain a color picture with this film, all that is necessary is to transform each component image of the negative into a positive image consisting of a suitably-colored dye. The image formed in the red-sensitive layer

(Continued on Page 220)

At top: No makeup; bottom: the effect with makeup.

Dabbling In Makeup —"Straight Makeup"

by
Wm. J. Grace

WITH the opening paragraph may I wager that not over one in fifty readers of this series of articles on movie makeup for the amateur has given serious thought to applying the principles of makeup to their cine work, because while it makes nice reading and increases the store of general knowledge, there seems to be little cause to get excited about employing makeup.

If you are one of those forty-nine disinterested persons who read but have not thought about a subject seemingly out of your depth, may I present concrete examples of the reasons for using makeup at all in the form of two sets of "before-and-after" illustrations. I believe you'll find the advantages of makeup quite forcibly exhibited.

Examine closely the four photographs. Look at them as critically as possible. Criticise the comparisons from any standpoint—see if the characters of the models have been changed by makeup. I believe you will come to the conclusion that the straight makeup has in no way **altered** the actual characters of the models, but rather has **accentuated** those little things which mark each of them as an individual. One of them has a beautiful mouth, the other beautiful eyes. I do not mean to slur over other features, but the points I have mentioned are, in real life, the first things you would notice about them.

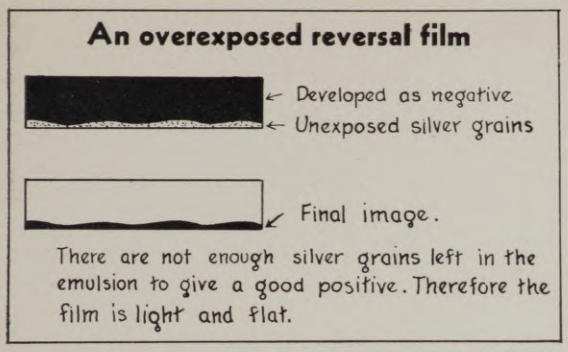
It is the subtle accentuation of one's outstanding feature (or features) that justifies the use of makeup, whether in real life, on the stage, or on the screen. And there must be a lot in this subtle power, for the cosmetic industry is one of the largest in the world. In no other industry is it possible to sell a dime's worth of colored grease or chalk for a dollar and get away with it.

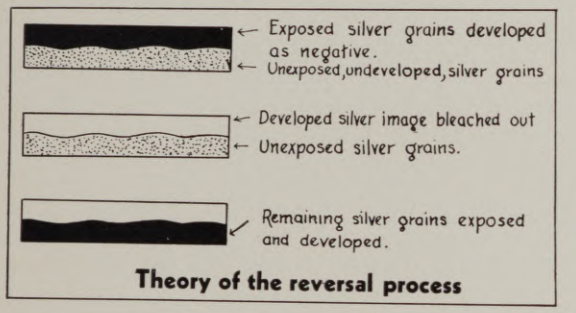
Perhaps the thing which strikes you in comparing these before-and-after pictures is the almost unbelievable difference in photographed skin textures. In real life both these models have beautiful complexions, in no way suggesting large pores or wrinkles. Yet, the brilliant lighting necessary for photography in light and shadow plays tricks with the finest skin texture—every little depression, no matter how small, photographs as a visible hole.

I am no student of cosmetics and can therefore assign no scientific explanation for the phenomenon. I do, tho, have a suspicion that makeup smooths skins for camera work because it is soft enough to go down into those tiny pores and color them the same as the surface of the

(Continued on Page 220)

At top: Photographed without makeup; at bottom: same girl with makeup.





Special Effects with Reversal Film

by
J. Lloyd Thompson
Laboratory Supervisor, The CALVIN CO.,
Authorized Agfa Ansco Reversal Laboratory

THERE have been a number of writers who have made a number of statements about the use of reversal emulsions in movie work which has done much to discourage the serious worker from trying special shots. For instance, the serious worker has been warned against trying effect lightings with a great deal of black background in them because the automatic processing machines will grey out the blacks and the results will be muddy. That has been true of films processed that way, but there are reversal films on the market which are not processed by the automatic method, but each film is given individual attention. Reversal films which are processed by this method will give you any effect you want provided that it has been correctly exposed. That is, it will do anything which a negative positive film will do. It will give you roundness, depth, detail, large areas of black space, perfect fade outs and fade ins.

Correct exposure in the reversal process is absolutely necessary if the best results are to be obtained. And it doesn't matter what film you are using either. Too much stress cannot be placed on this point. However, with an electric meter there is no reason for missing exposure. In order that you may understand this it will be necessary to tell you something of how the reversal process works. After your film has been exposed it is developed much the same as a negative from your still camera, i.e., it is developea as a negative. Now if you wanted this film to be a negative you would put it in hypo and dissolve out the silver which was unexposed and hence which has not been turned into metallic silver by the developer. But, we want a positive image of the picture and not a negative, and so instead of putting it into hypo to eat out the undeveloped silver, we put it into a reversing solution which eats out the black metallic silver which has come up as a negative, but this does not affect the unexposed, undeveloped silver still in the emulsion. After the developed silver has been eaten away the film is exposed to light, and the undeveloped silver remaining is exposed. This is then developed and it forms a positive image. You can see that you have used up all of the silver in the emulsion. Now supposing you have overexposed your film. It first comes up as a negative. Since it is overexposed it gets very black, using up a great many more of the silver crystals than it should. When these are bleached out in the reversing bath there is not enough silver left in the emulsion to make a black positive image and it appears too light on the screen. If it has been underexposed the opposite is true and the final positive will be too dark. Of course, if you make your exposure even all through the roll, and whether you over or under expose it, this can be controlled in the first development so that the final image will probably be pretty good. That is why it is better to shoot a whole roll in one day—the exposure is more likely to be more even.

By referring to diagram No. 2 you can see what happens when a film is overexposed. The only method of corrcting such an error is to underdevelop it in the first development. Since the whole roll must receive the same developing time the rest of the roll will have to suffer if this one scene is corrected. Therefore the exposure should be kept even. Correction of any kind means loss of detail. This is true of any kind of photography, but since movie film is so small in size the losses are more easily seen.

Reversal film will give you excellent black and white titles with perfectly black backgrounds. It will allow you to make spotlight pictures or to photograph large black areas with a normal scene in only part of the frame, or any other special effect you may want. However, you must expose it correctly, and use a film which is developed by personal attention to each roll. Don't expect the laboratory to put pictures on your film. You must do that in your camera.

There is one thing in your favor, however. All emulsions have been improved in the last year so that they have more natural latitude in the film itself. The new Plenachrome emulsion probably has more of this natural latitude than any film yet produced. As time goes on we can probably expect more and more of this latitude as the film makers are constantly at work and they are bound to make improvements. So much for the exposure and correction for exposure errors in reversal emulsions.

All of this sounds complicated. It is meant to be for those who want to do the unusual. If you want just ordinary pictures go ahead and make them like you have always done, but if you have been getting some scenes too light and others too dark it will help you and save you money to try to understand a little more the process you are using.

Special effects take plenty of time, patience, and experimenting, but the finished result makes it well worth while. With reversal film you must be careful, but most anything can be done with it when you learn the proper technique.

A "Documentary" Film From Stock-Shots

by
William Stull, A.S.C.

A "DOCUMENTARY" film can be either as intricate or as simple as you wish to make it. What chiefly differentiates it from the more familiar genres is the one requirement that it must be informative. This is a matter of treatment as well as subject-matter: even a hackneyed home-movie subject like "Baby's Bath," for instance, would automatically become a film-document if the film were made to show not merely the fact that a baby is being bathed, but what is the correct method of bathing a baby. This treatment can be applied to almost any subject; and while the more intricate operations are best filmatized if everything, from shooting to editing, is planned with this idea in mind, surprisingly interesting documentary pictures can often be made from ordinary shots if they are intelligently edited and titled.

Here, for example, is a "Documentary Film" continuity with which I assembled some left-over scenic shots into a picture which has received favorable comment from every audience that has viewed it:

MAIN TITLE:

THE ROMANCE OF A RIVER

(I made this on an art background, using a pictorial still-picture showing a river wandering across a valley. This was done in double-exposure, first fading the picture in, then the words, after which first words, and the picture faded out.)

TITLE: All the World loves a river. There is a blessing in its ceaseless flow—a mystery and a fascination in the story of its endless journey to the sea.

Scene 1. FADE IN. Long-shot of a broad river, flowing away from the camera. If possible, make this in a back light, with the light reflecting strongly from the water, with the river banks left fairly dark. FADE OUT.

TITLE: For centuries a blazing sun has drawn up water from a shining sea.

Scene 2. Back-lit long-shot on the seashore: silhouetted rocks in the foreground, clouds in the sky, and the back-lit surf gleaming.

TITLE: And clouds have formed, wind-tossed about the sky.

Scene 3. Heavily-corrected shot of clouds. Preferably, with no ground showing in the scene.

Scene 4. Long-shot, heavily filtered, of clouds over tall trees.

Scene 5. Long-shot, in stop-motion, showing clouds swirling over mountains.

TITLE: Then from the clouds, snow has fallen softly, until it lay like clouds upon the slopes.

Scene 6. Long-shot, heavily filtered, of a snow-clad mountain, with great fluffy cloud-banks above.

Scene 7. Similar long-shot, but with more foreground, and heavier clouds.

Scene 8. Closer shot of a snow-covered mountain peak, with clouds in the sky above.

Scene 9. Panorama of a snow-clad mountain range.

TITLE: Fed by the snow and rain, small streams emerged . . .

Scene 10. Close shot of a rivulet coming from the foot of a melting snow-bank.

Scene 11. Medium-shot of a brook, running between banks of melting snow.

Scene 12. Long-shot of a valley with a stream in the centre, flowing toward the camera. In the distance, a snow-clad, cloud-draped mountain.

LAP-DISSOLVE TO:

Scene 13. Medium long-shot of a waterfall in a small stream plunging through a forest.

TITLE: To start their ceasless journey to the sea.

Scene 14. FADE IN. Long-shot of a white-water river in a deep, wooded canyon.

Scene 15. Closer shot of the same, made from above. Pan upward to show canyon walls and skyline. FADE OUT.

TITLE: "And see the rivers how they run . . .

Scene 16. FADE IN: long-shot of a broad, placid river curving through steep hills (flowing away from camera). FADE OUT.

TITLE: . . . through woods . . .

Scene 17. Long-shot, made from a low set-up, showing a river (in the foreground) flowing between tall trees.

TITLE: . . . through meads . . .

Scene 18. Extreme long-shot of a river meandering across a cultivated valley.

TITLE: . . . in shade . . .

Scene 19. Close shot of a river flowing past the camera, under heavily leaved trees.

Scene 20. Close shot of a shady tree close to a river-bank.

TITLE: . . . in sun . . .

Scene 21. Medium long-shot of a river flowing through a bare, open valley; OR a shot similar to Scene

(Continued on Page 222)

The Camera I Would Like To Own

by
Wm. J. Grace

FROM the gentle art of day dreaming often come the visions of better things which will someday come to pass. From the daydream to the drawing board, from the drawing board to the manufacturing plant, and from the manufactury to the ultimate consumer may involve many months of planning, engineering, and advertising. But a start has to be made somewhere, sometime.

All this does not mean that from the inspiration which this article may arouse will immediately spring a camera which will fulfill the dreams of one man. So please have mercy on the stenographer of the author (who, by the way, **is** the author), and do not send your orders until further advised.

What I mean to say, if you'll pardon me, is that ever since I've worked with amateur cine equipment I've had dreams of better equipment. I don't mean merely the substitution for the present nickel plate of chromium plate; I don't mean the mere refinement of existing apparatus; I mean something really better, different, basically improved.

Automobiles for years went along getting a little more refined here, more fancy there, more convenient somewhere else. Each year's models were slightly improved, but still the basic ideas of construction were the same from year to year. Then, one manufacturer, noted for his dramatic introductions of new ideas in the automotive field, got down to the why of this and the wherefore of that, and found we were driving 60 miles an hour in 30 miles an hour cars. He drastically relocated not only the mechanical components of the car, but the location of passengers as well, and then shaped the car for more efficiency at modern speeds.

The same thing is going to happen to amateur cine cameras one of these days. Some aggressive manufacturer is going to scrap a lot of preconceived notions about what the public wants, and get on the market something the public really and truly is demanding. Why aren't there more cameras in use today? Simply because something more drastic or dramatic (or call it what you will) will have to be done than adding a cute little panel of color here or a shiny gadget there.

Nothing is ever completely perfect for all time, for our very notions of perfection are as changeable as the style of women's apparel. Therefore, I should hesitate to call this camera I would like to own the "perfect camera." By the time I got it, I'm sure I'd think of something else I'd want it to have. But for the present, at least, let's see what one man thinks should be the plans and specs of the "perfect camera" for the present.

The first thing I would do, is write the specifications to read, "No carrying case shall be required. The camera should be so covered, possibly with a substance like leather, that there would be no need to further enclose it for transportation."

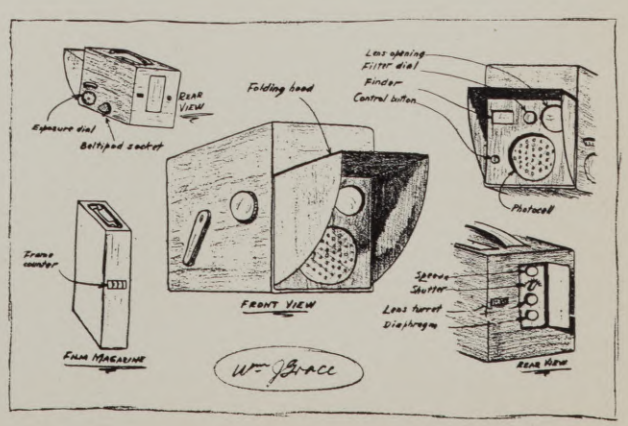
Why would I eliminate the carrying case? Ask yourself that same question the next time you take out your camera for a bit of filming. You don't dare risk smashing a lens or tearing off the spring-winding handle or some other lever or knob by carrying the camera without the case, but the case is an awful nuisance to lug around. The design I've sketched doesn't need any carrying case, as you will note. All controls and the lenses are completely protected from injury when the two covers are closed.

The next paragraph in the specifications would start, "The camera is to use 8mm film." Now, here is where I've got to back up against a wall and start fighting! A year ago, you know, I was invited by the editor to discuss the possibilities, present and future, of 8mm, and the article, "HOW ABOUT THE 8?", appeared in March, 1934. I was strongly attracted to 8 then, and now that a year has passed, I feel all the more strongly in favor of the tiny but efficient film. So much so, that, could I have the camera I'm describing, I would gladly trade in my three 16 cameras and my 16 projector, and have all my library reduced to 8.

It is not a case of merely being obstinate about liking the 8, for I try at all times to keep an open mind. I **have** found, tho, that most 16'ers violently disagree with my views, possibly because they don't know just how fine 8 work really is. Then, too, there is always the argument that "it would be so expensive to have all my present 16 reduced to 8," but it is an argument that won't hold water. If one films at all, the cost of such reductions would be more than gobbled up by the savings in 8 film cost from this point on.

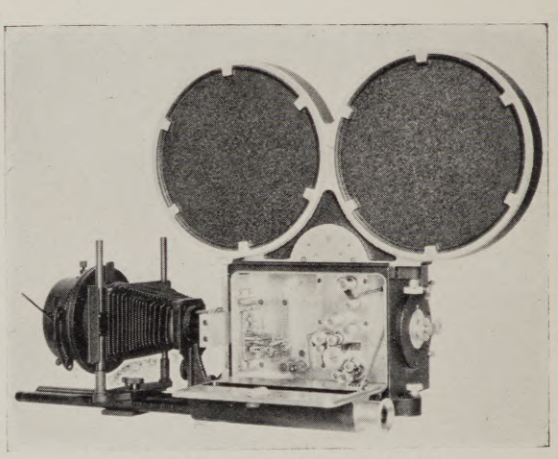
True, 8 now has only one emulsion available—pan. When the market justifies it, tho, there'll be as many (or more) emulsions for 8 filmers as there are now for 16. If you prefer to wait until then, that's all right with me, but may I suggest that if you wait, say, about a hundred years, perfection may be nearer in almost everything. In other words, why be stubborn about it—why not get into the development and grow up with it? If we had all waited until radio was "perfected," we wouldn't have any radio at all today.

(Continued on Page 223)



Fearless Silent 16mm Professional Camera

by
Ralph G. Fear
President, Fearless Camera Co.



At top the custom built Fearless 16mm camera with sound unit attached. At bottom same camera without sound unit showing interior mechanism.

ONE of the most interesting developments of recent years in the amateur or 16mm field, is the new Professional 16mm Fearless Silent Camera, and its associated sound recording attachment.

This new camera is a miniature duplicate of the well known professional 35mm and 50mm camera manufactured by the Fearless Camera Company, and has all of the features that professional cameramen have found necessary for regular production of motion pictures.

The camera does not have a spring motor drive, but is arranged to be driven by an electric motor, or cranked by hand. Conventional detachable magazines of 400 feet capacity, arranged either for daylight loading spools or standard 400-foot rolls, are placed on top of the camera and held by a quick-releasing screw.

The camera is built with an internal driving mechanism arranged to drive a detachable sound recording attachment which is placed underneath the camera. The recording attachment is held to the camera by a quick-releasing screw which is turned by the camera hand crank.

One screw holds either the camera or sound recording attachment to a conventional professional type tripod, the tilt head of which may be either a friction type or geared type.

A miniature professional type Iris, matte box, filter holder and sun shade are mounted upon the front of the camera.

Two types of motors have been developed for driving the camera, one being a universal variable speed motor which may be operated from either alternating current or direct current and is calibrated for speeds from 8 to 32 frames per second, the other being a standard synchronous motor of special design which can be furnished for either single phase or three phase current.

The camera has a professional quick shift device for focusing, focusing of the camera lens being made upon a ground glass, the image formed thereon being viewed through a magnifying focusing tube where the image appears right side up and right side to.

To elaborate on the method of focusing the photographic lens—the camera is built with a sliding turret and lens carrier on the front of the camera box. This lens carrier is mounted in dovetails and constructed so that it may be shifted across the front of the camera box to a point where the photographic lens is in front of the ground glass of the focusing tube. The lens carrier is made so that the light shade is mounted to it and instead of having to shift the camera, magazine, motors, cables, etc., only the light weight lens system and light box are shifted.

The actual shifting is accomplished by merely pressing down a knob and moving a lever from one side of the camera to the other. This focusing operation is performed so quickly that it has been a revelation to all who have seen it. Suitable stops prevent over-travel and suitable locks are provided to hold the lens carrier either in the focusing position or in the photographic position. The image is viewed with a conventional finder or focusing magnifier which is supplied for either five or ten power.

The focusing telescope is of the simple astronomical type, and re-inverts the inverted image formed by the lens on the ground glass, thus bringing the viewed image right side up and right side to.

The camera has been designed for silence throughout and extreme pains have been taken in the design and construction to eliminate noise wherever possible. The camera can be used in the open for all ordinary shots without any sound proof covering. This has been accomplished by using fibre gears to transmit the power, precision bearings for the driving shafts, and by inclosing all moving mechanism outside of the movement and sprocket assembly in grease tight and sound proof compartments.

The camera is arranged so that the driving motor drives directly into an extension of the movement cam

(Continued on Page 224)

WHEELS OF INDUSTRY

• Burleigh Brooks announces a new angle of the Rolleiflex Salon.

The manufacturers of the Rolleiflex Camera, Franke & Heidecke G.m.b.H., in Braunschweig, Germany, are advancing a prize contest for European users of the Rolleiflex, simultaneously with the American. They have in prospect for publication next fall "The Golden Book of the Rolleiflex," in which the best pictures from both contests will be reproduced. The book will be very handsomely edited and compiled, and will have a large distribution all over the world.

The firm of Franke & Heidecke G.m.b.H. now offers an additional prize of from $10.00 to $20.00 for each picture which they see fit to reproduce in this manner, in addition to a free copy of the book itself. This, of course, is altogether independent and additional to the prizes granted by Brooks.

The Kemco Filmvisor

• The heretofore slow and laborious task of editing and re-arranging amateur movie films has been greatly simplified thru the use of the new Filmvisor announced by The Automatic Electrical Devices Company, of Cincinnati, for use with all 8 or 16mm films.

One of its features includes both 1:1 and 4:1 ratio rewind speeds, with a transferable brake to prevent unwinding of free reel should rewinding be stopped suddenly. Splicing outfit is self contained, and of simple, though sturdy construction, and easily operated.

When using the Filmvisor for inspecting or reviewing a film, the latter is wound slowly under a powerful magnifying glass, and over an aperture illuminated by a bright light, greatly enlarging the film image. A new and unique method of identifying each scene, thru the application of a small gummed sticker to the film at the end of each scene, and the listing of all scenes on a Master Editing sheet, with a brief description thereof, makes final cutting and re-arrangement of the various scenes extremely simple.

When used for cleaning a film, the lamp housing is reversed, bringing a single roller in place, over which the film is slowly run, passing thru a piece of chamois cloth saturated with a quick drying cleaning fluid, which removes all grease, dirt, etc.

Emulsion Remover

• According to announcement of the Rosco Laboratories their Emulsion Remover enables one to make a firmer splice with greater ease and perfection.

The Emulsion Remover peels the emulsion from the base of the film. With ordinary scrapers the tendency is to scrape the base, making the base thinner than necessary for making the splice according to their claim.

The importance of avoiding scraping the base thin is readily discerned, since the cement is apt to dissolve the thinned area, making the patch weaker at the outer edges of the splice, causing the splice to tear apart.

The Emulsion Remover is an instrument having a moistened wick in the barrel of the holder with a straight blade at the end and the wick extends under the blade.

For operation the emulsion is moistened with the wick and the blade peels off the emulsion.

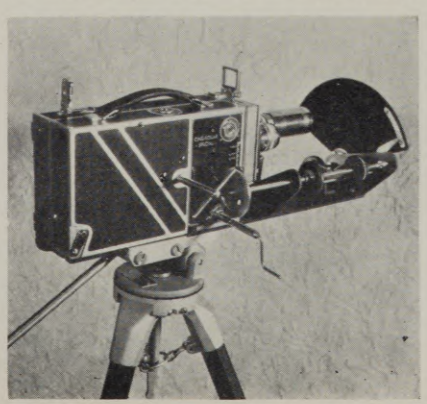
A gentle turn of the fingers alternates the wick and blade, placing either in position for operation.

The Emulsion Remover moistens the emulsion, instead of saturating it. When the film becomes saturated, the excess water will soften the emulsion beyond the splicing area.

Film Cement attacks the base of the film best, when less moisture is present.

New Wipe Off Device

• J. D. Cochrane Jr. of Cincinnati announces he is about to market a wipe off device to fit the Cine special under the trade name of DuMorr Radial Wipe.



This device is a self contained unit which can be mounted on the tilting tripod head allowing the camera to be bolted in place in the usual manner. No modification of the camera is necessary other than the removal of the eight-frame-per-turn crank and installing on this axle a gear which actuates the mechanism. A special spring-winding key is provided to take the place of the regular handle in winding the spring motor when the wiping device is in use. Also, a special rewinding handle is supplied for use on the one-frame-per-turn axle to rewind the film in making a wipe. The accessory weighs one pound and is constructed mainly of black Formica.

The direction of the wipe can be made from right to left or vice versa by twisting the belt on either set of pulleys. The effect can be further modified by varying the number of frames of film rewound, producing either a black or white radial beam as desired. The length of the wipe can be either 1½ or 3 seconds according to which set of pulleys are used for the belt which drives the fan.

Leica Data Book

• The fourth edition of the Leica Data Book by Karl A. Barleben Jr. F.R.P.S. has just been published by the Fomo Publishing Company of Canton, Ohio.

This little handy sized book which sells for $1.00 has 84 pages of interesting information for the users of the popular Leica camera.

The book is divided into seven main divisions. The first treats with lenses, the second is titled "Exposure Data," the third "Film Data," then follow "Filter Data," "Projection Data," "Developing Data" and "Conversion Data."

Book of Formulas

• For many years "HENLEY'S 20th CENTURY BOOK OF FORMULAS, PROCESSES AND TRADE SECRETS" has been a standard book.

Last month the new 1935 edition, revised under the editorship of Prof. T. O'Conor Sloane, made its appearance.

The formulas themselves, have been revised. The latest methods and trade practices have been included. Many

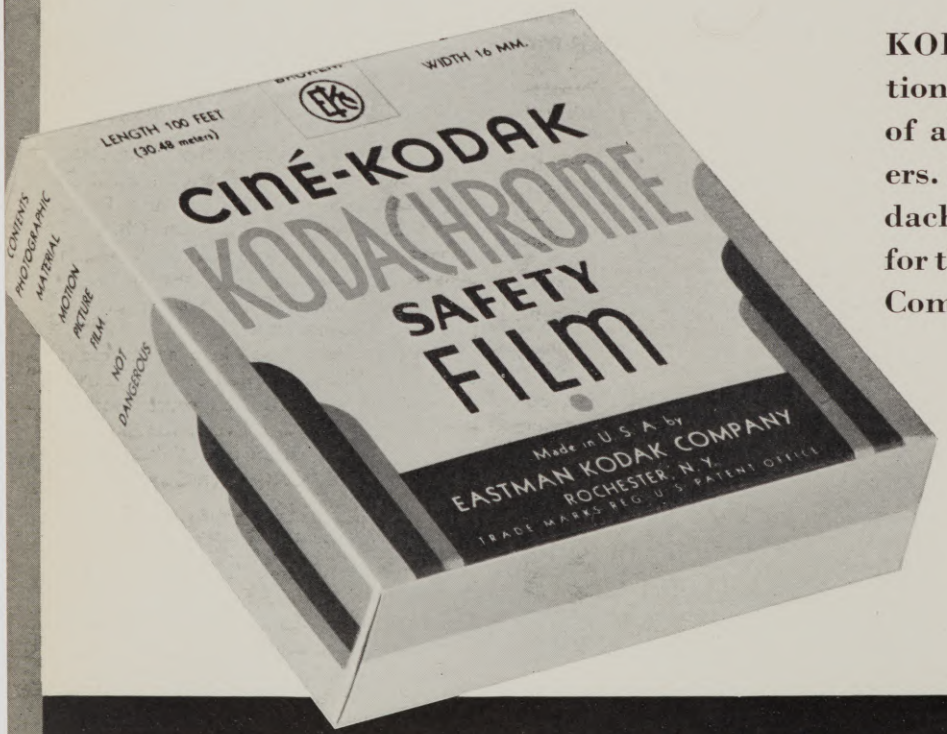
(Continued on Page 220)

KODACHROME

FULL-COLOR MOVIES with any 16 mm. camera *of* 100-*foot film capacity*

HERE are the facts about Kodachrome, the new Eastman full-color 16 mm. film, of which Dr. C. E. Kenneth Mees, Vice-President in charge of Research and Development, Eastman Kodak Company, says: "... The pictures made by this new process ... KODACHROME ... are a revelation ..."

The page opposite answers your questions about it.



KODACHROME demonstration reels are now in the hands of all active Ciné-Kodak dealers. Make a point of seeing Kodachrome. The pictures speak for themselves. Eastman Kodak Company, Rochester, N. Y.

NRA CODE

KODACHROME

Will my camera make full color Kodachrome movies?

YES—If your camera loads with 100-foot rolls of 16 mm. film—regardless of its lens speed. All diaphragm "stops" from *f*.16 to *f*.1.9 are "go" signs for Kodachrome. Merely slip a roll of Kodachrome into your camera, *use the next larger diaphragm stop than that required for Ciné-Kodak Panchromatic black-and-white film* (for example, *f*.8 instead of *f*.11) and get movies in full, natural color. And you can make them with telephoto and wide angle lenses as well as with the standard lens of your camera.

Will my projector show Kodachrome?

YES, with the full brilliance and full size of black-and-white. *There are no lines, no fringes, no screen pattern*—only smooth, beautiful color. No filter is necessary. The color is in the film.

What extra equipment is necessary?

For your projector—NONE. For outdoor Kodachrome—NONE, except when making distance shots with a telephoto lens, long range shots with the standard lens, snow or high altitude scenes, or shots on gray days. For subjects such as these the Kodachrome Haze Filter is suggested. No change in exposure is required for this filter. Its price, depending upon the lens and camera used, is from $1.75 to $3.75. And for indoor Kodachrome with Photoflood Lamps a similarly priced Kodachrome Filter *for Photoflood* is recommended to cut down the preponderance of red rays found in artificial light. Kodaflector, Eastman's $5 twin-reflector lighting unit, is your best source of illumination. Outdoor exposure instructions are packed with each roll of Kodachrome. Indoor instructions may be obtained from your dealer.

Focusing cameras can be set at "25 feet," or universal focus, just as when using black-and-white film. Nor are fixed focus cameras handicapped when using Kodachrome. Merely observe the usual precautions when taking close-ups, and use the portrait attachment if your camera is so equipped.

Can I show Kodachrome on the same reel as black and white?

YES. Those who do not wish to make all their movies in color can splice black-and-white and Kodachrome sequences together, project them consecutively. Focus and brilliance are substantially identical.

Where can I buy Kodachrome?

All active Ciné-Kodak dealers in the United States should have Kodachrome in stock right now.

The price is $9 for 100 feet, including processing at Rochester, N. Y.

Can I get Kodachrome Film for my still camera?

At the present time Kodachrome Film is available only in the form of 16 mm. film because we have only been able to work out the processing methods and to construct the necessary machinery for the 16 mm. film.

Where can I see Kodachrome?

Most Ciné-Kodak dealers are already equipped to show you Kodachrome. Visit your dealer at once. Learn for yourself how inadequate any printed description of this amazing discovery really is. Visualize your favorite movie subjects as reproduced with the unmatched beauty and realism that only Kodachrome can bring to your screen.

For the time being Kodachrome Film is being processed at Rochester, N. Y., only. As soon as practicable other stations will be equipped to process Kodachrome.

Start Planning for the 1935 Contest

Now is the time to start planning for the American Cinematographer 1935 Amateur Movie Contest.

There will be a number of outstanding prizes. All worth while competing for.

THE GRAND PRIZE WILL BE.....$250 in cash.
EASTMAN KODAK CO. OFFERS $150 in equipment.
BELL & HOWELL OFFERS.....$150 in equipment.

Start preparing now for entry . . . plan your picture. You can make it on either 16mm or 8mm.

Last year the grand prize winner was an 8mm user. The year before it was also an 8mm user. The size of your equipment is no bar to your winning.

The entries must be in the offices of the American Cinematographer by midnight, November 30, 1935.

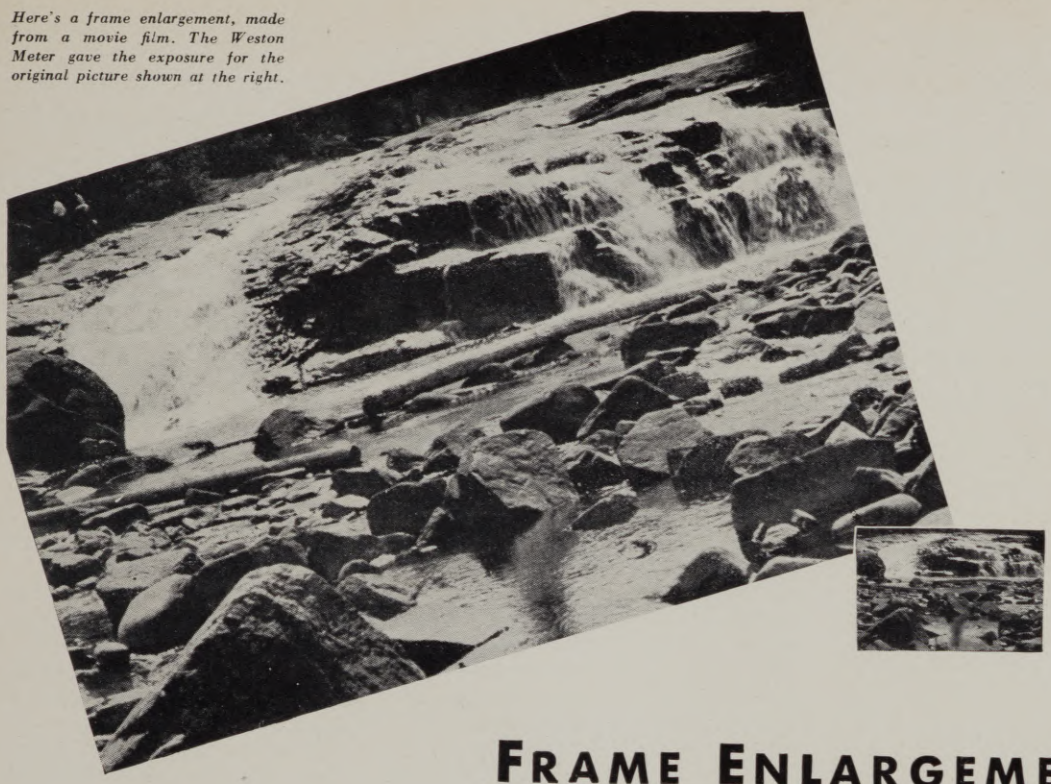
If you wish further information address

CONTEST EDITOR

American Cinematographer

6331 Hollywood Blvd. Hollywood, Calif.

Here's a frame enlargement, made from a movie film. The Weston Meter gave the exposure for the original picture shown at the right.

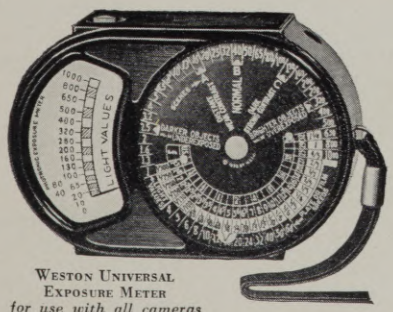


FRAME ENLARGEMENTS

prove the Accuracy

OF WESTON EXPOSURES

Will your pictures stand this acid test? Take any frame from one of your movie films. Enlarge it. Will you get results as shown above? You will . . . if a Weston Exposure Meter is used when shooting the film . . . for then every frame will be correctly exposed. True, your desire in making movies is not for frame enlargements; but you *do* want clear, sparkling movies . . . a re-creation of brilliance and life on the screen. You will get it if your exposures are correct . . . and they're sure to be correct if a Weston is used . . . Weston Electrical Instrument Corporation, 598 Frelinghuysen Ave., Newark, N. J.



WESTON UNIVERSAL EXPOSURE METER
for use with all cameras . . . movies, miniatures and stills.

WESTON

Exposure Meters

EASTMAN'S NEW 16mm COLOR FILM SENSATIONAL

(Continued from Page 209)

is transformed into a blue-green positive; the image in the middle green-sensitive layer, into a magenta positive; and the one in the top blue-sensitive layer, into a yellow positive. This is accomplished by an extremely complex processing system. The images in the three layers are first developed, as with ordinary black and white film, and then by a series of treatments the images in the three layers are transformed into positives formed in the dye. The whole of the silver salts are removed finally, and the image consists of three superimposed dye pictures.

"The process is the invention of Mr. Leopold Mannes and Mr. Leo Godowsky, Jr. These gentlemen are musicians whose names were well known in the musical world when some years ago they commenced the study of color photography as a hobby. As a result of collaboration between them and the Kodak Research Laboratories for a number of years, it was evident that the work could only be brought to a successful conclusion by a full utilization of the research and manufacturing facilities available at Kodak Park. Here, there were available experts of many kinds: organic chemists, emulsion-makers, dye specialists, photographic chemists, and experts in photographic operations—and in 1931, therefore, Mr. Godowsky and Mr. Mannes joined the staff of the Research Laboratories. By the complete cooperation of the staff of the Laboratories and of the Kodak Park Works. a task which at first appeared impossible was achieved and the Kodachrome process is the result.

"The processing, as has been said, is extremely complicated and involves the treatment of the film upon three separate machines. Experience has shown, however, that it can be performed with certainty and that the commercial production of the color pictures presents little more difficulty than the production of black-and-white pictures, although the complex processing treatment and the expensive chemicals used in it naturally increase the cost considerably."

WHEELS OF INDUSTRY

(Continued from Page 215)

complete sections are composed of entirely new material.

The scope of the book is so extensive that both amateurs and professional workers will find it valuable. There are 10,000 different formulas for all sorts of things for the photographer, householder, farmer, mechanic, laboratory worker—from making simple household washing powders or writing inks to practical methods of heat treating steel.

There is a very complete, cross-referenced index and a plainly written section on laboratory methods.

"HENLEY'S 20th CENTURY BOOK OF FORMULAS, PROCESSES AND TRADE SECRETS" sells for $4.00.

DABBLING IN MAKEUP

(Continued from Page 210)

skin, and that tricks the camera into thinking the skin is perfectly smooth. Street makeup, you know, is nearly always applied dry and can't get into the pores and color them the same as it does the surface.

This theory satisfies my own curiosity,

but whether it is correct or not you'll have to find out for yourself elsewhere.

Personally, I have found straight makeup a lot more difficult than character makeup, because straight makeup requires a knowledge of skin textures and colorings which in my engineering experience is quite lacking. I can make up characters easier than I can make up straights because bold accentuation of a desired feature is a lot easier than a more subtle accentuation.

If you think I'm talking in riddles, if you believe straight makeup is foolproof and can be done by anyone regardless of his or her experience, all you've got to do is try it. If you hit it lucky the first time, you'll probably laugh at me, but my laugh will come when you try to duplicate the results and your luck has run out on you. I'm only trying to combat the idea that just because makeup is "straight," it can be put on without serious thought. And this isn't said because I happened to find straights harder to do than characters—I know of many other dabblers in makeup who have discovered the same thing.

But let's get down to cases and write down just how we got the results we did. What numbers of paints and powders did we use? What lip rouges were applied? What eye shadow?

Makeup, like any other art, cannot be measured with a yardstick and put on according to formulae. Some actual experience and practice is quite necessary. You cannot afford to take the exact shades we happened to use on these two models and expect results exactly like ours, because your models may not have the same facial expression, the same skin textures, the same cranial framework as ours had. So, when we say we used such - and - such paint or powder, remember that your own models may not correspond to ours, and use your own judgment.

The young lady of the upper set of photographs is a brunette with light skin. Her upper eyelids are full and round, and the bony structure, being well padded, casts no deep shadow above the eyes. Because thin eyebrows are the present style in feminine beauty, she plucks them into rather a thin line. With the full, rounded brow structure which she has, her face photographs as if she were constantly lifting her brows in an attitude of questioning—as if she were ready to say, "Yes?" Consequently, this alters her expression, and the camera does not yield a life-like image. To draw the brows down and connect them more closely to the eyes, then, requires a bit of shadow. We used the grey eye shadow to get a shadow because the lighting would have made it disappear. The film doesn't care whether the dark space is made by actual shadow cast by lights or by synthetic shadows produced with makeup.

SHOOT YOUR FAVORITE ACTRESS FROM YOUR SEAT IN THE THEATRE

SHOOT ALL THE FUN OF A GLAMOROUS EVENING FROM YOUR TABLE

SHOOT CHILDREN WHEN THEY'RE NATURAL —PLAYING, HAVING FUN

SHOOT YOUR FRIENDS WHEN THEY'RE NOT LOOKING—CATCH THEM ALIVE

Leica shots by Ivan Dimitri

This same young lady has a beautiful mouth, especially when it's opened in a smile or in conversation. It requires only smooth application of medium lip rouge, with the upper lip made a trifle heavier and fuller so that it will photograph rich and full when the camera is above the line of her lips or when she looks down below the camera. Last month, you remember, we made mention of this little makeup trick and gave the reason for the slightly fuller than normal upper lip rouging.

The young lady in the lower set of pictures is also a brunette, but her skin is darker, more olive in color. Where the other model used No. 22 pancro, this one used No. 23. Both could have used one shade darker under the full illumination we used in making these pictures, but for average filming, the lights probably wouldn't be so intense

full-face and the ones we used would have been correct.

The outstanding feature of the second model is her deep-set eyes. In real life her eyes derive much of their beauty from the dark surrounding lids, but the camera has a tendency to accentuate unpleasantly the wrinkles under her eyes, giving a dissipated mien. The use of brown eye shadow brings out the deep setting of the model's eyes with makeup, but we kept the shadow confined to a smaller area and out of the wrinkle area. The shadow was very sparingly applied, much more so than in the case of the first model, because the lights themselves show some shadow with the second model. You will notice that considerably more top-lighting on the "after" picture of number two still doesn't make the eye shadows too deep, a thing for which we may thank makeup.

The lips of the second model presented somewhat of a problem, since the lower was rather full but the upper rather thin. Consequently, not only was the upper lip made fuller, but we tried to thin the lower lip slightly, by not rouging the lip quite so fully.

So much for the experiments we tried in straight makeup on the faces of two rather different models. We found it lots of fun trying to make up these faces so they would photograph naturally, and learning the fundamentals of facial contours is a most interesting phase of movie makeup. We found that where there was no photographic shadow, makeup could provide one. And we found that natural shadows can also be toned down, with makeup.

Try some of this business of straight makeup yourself. It won't cost much, and it offers a pastime which can be substituted for the weekly bridge party when friends drop in. Next month we'll go into character makeup, something all of us think we know something about but which can be very baffling at times.

A "Documentary" Film from Stock Shots

(Continued from Page 212)

19, but made in a hot, contrasty top-light, so that the tree leaves glitter and give an impression of unrelieved sunlight.

TITLE: . . . sometimes swift . . .

Scene 22. Close shot of surging rapids. (If you have the footage, this can be elaborated by repeating in a series of short flashes made from different angles, and of different rapids.)

TITLE: . . . sometimes slow . . .

Scene 23. Long-shot of a placid, mirror-like stretech of river. This should be of relatively long duration, to add to the sense of slowness, and to contrast with the quick flashes suggested for the previous scene.

TITLE: . . . wave succeeding wave they go."

Scene 24. Close shot of ripples on the surface of a stream.

Scene 25. Close shot of a stretch of white-water rapids; if possible, from above, panning up- or down-stream to show a long succession of rapids.

TITLE: At times, they merge to form a placid lake.

Scene 26. FADE IN: Long-shot of a very calm lake, mirroring mountains, trees and sky.

Scene 27. Another, similar scene. FADE OUT.

TITLE: At times, they fall in headlong flights of foam.

Scene 28. Long-shot of a high waterfall: if possible, with a person in the field, to indicate the height of the fall.

Scene 29. Medium-shot of the fall, or a different one, if you have scenes of more than one. FADE OUT.

TITLE: Until, at last, they slip into the sea . . .

Scene 30. Long-shot (from a high viewpoint) of the mouth of a river, flowing into the sea. (A back-light is good for this.)

TITLE: . . . where they are drawn again unto the sun.

Scene 31. Long-shot of back-lit surf, sky and clouds, similar to Scene 2.

TITLE: And so it goes, a constant, ceaseless chain — an endless tale — the romance of a river.

Scene 32. Medium long-shot of a strong, swift river, flowing away from the camera between high banks. FADE OUT.

TITLE: THE END.

This sort of a picture proves surprisingly interesting on the screen, though it may appear simple on paper. Granted good photography and clever cutting, the result should be highly effective, despite the simplicity of the framework. Of course, this outline should be adapted to suit the particular scenes one has at hand: if for instance, one has scenes showing boats, ships and the like on a river, a sequence can be added to utilize them; similarly, if one has a variety of shots of waterfalls and rapids, they should be utilized. This structure offers some fine opportunities to experiment with rhythmic cutting, especially in contrasting long, slow scenes, faded in and out, in the sequences illustrating the slow, placid streams, with a medley of short, quick flashes in the scenes of the falls and rapids. In my own picture, I found that the effectiveness of the film was greatly increased by toning the entire reel blue. For amateur use, this can very easily be done by using the "Tabloid" blue toner, which is available at most good photo-supply stores.

The Camera I Would Like To Own

(Continued from Page 213)

Enough of the arguments about 8. There will always be the die-hard group, just as there was when 16 came along. But 16 is here, and it will stay, just as 8 is here and here to stay. Choose your weapons, and then be man enough to admit with tolerance that the other fellow's weapons and cause may be just as good as your own.

And so, I've decided on 8. That means equipment about half the size of 16, and a film cost of a third of 16. With that momentous decision made, let us proceed in a less argumentative vein.

I should like very much to have a single lens of the Varo type, in which the elements may be varied to make the lens anything from ½" focal length to 1½", with automatic iris diaphragm. I don't know whether this could be built or not, this Varo lens for 8mm work, but if any of my readers happen to be lens designers, I would appreciate your comments on the idea.

If I couldn't have a Varo lens (and the sketches have shown otherwise), I would be satisfied with a three-lens turret carrying a ½", a 1", and a 1½". I don't personally care for wide angle lenses or extra long telephotos, and the range mentioned would be quite adequate for most work. I would have all the lenses so mounted, however, that the turret did the moving for focusing, not, the lenses themselves, as is now the case. Why go to the expense of calibrating each lens (and they tell me such calibration is a considerable part of lens costs) and making a screw mount for this adjustment, when the whole set could just as well be moved?

Focusing? Oh yes, that's a most important item. I should require a focusing means basically similar to that in the Cine-Kodak Special, but I would have this combined with the brilliant finder in such a way as to make either field visible thru the same finder. If the subject were bright enough, I would use the thru-the-lens image all during the shot, but if the illumination were too poor for that, I could use the brilliant finder.

So many are the advantages of getting absolute focus and field limits with a thru-the-lens viewer that it hardly seems necessary to review them. You and I know that only when we can see exactly what the lens sees can we be absolutely certain of our picture results.

Exposure? Automatic? No, I wouldn't want that. After all, one does like to have some say-so about what's to be recorded and how it is to be recorded. I would want a Weston exposure meter built right into the camera, possibly with a few minor revisions of the scales for simplicity (for instance, there would be no need for the scale to indicate down to less than 1/15th second), the photronic cell facing the subject alongside the camera lens, the meter and scales located conveniently near the speed and shutter opening controls. If a picture was to be made of a subject having a brightness scale greater than the film had, the whole camera could be moved from portion to portion of the subject to determine the limits.

Now to a most important feature as regards convenience in operation—film magazines. The introduction of film magazines is, I think, one of the finest innovations in amateur cine work. Not making use of our cameras every day, we amateurs lose the fine touch and almost mechanical rapidity necessary to fast, accurate film threading. Consequently, a bungling job is done under conditions of pressure, and if we take time to thread the film properly, the shot is gone while we are getting ready for it with a new roll, the previous roll having disconcertingly come to an end right in the middle of the best part of the scene.

I am not wholly in favor of a magazine of the design used by Pockette and the new Bell & Howell 121 cameras, probably for the reason that I begrudge paying an extra fee for magazine convenience every time I load. I personally had much rather buy a pair or so of magazines outright, and load them up myself, in the manner of the Cine-Kodak Special. The bulk required by a roll of 16, however, is unnecessary with a little roll of 8. Where the magazine on the Special seems entirely too large for me, I can picture a very compact 8 magazine, even of the type I would load with regulation spools.

And now we come to the one point which only one amateur cine camera in the world (excluding the custom job of Berndt) provides — an adjustable shutter. Where not one amateur still worker in a hundred, if he knows his stuff, would take pictures of action at the slow speed of 1/30 of a second, the cine worker is forced to take any and all of his movies, whether the subject is standing stock-still or galloping for dear life, at that very speed. I'm going to keep on panning manufacturers until the editor will be notified by the advertisers that they'll refuse to use space in AMERICAN CINEMATOGRAPHER until that Grace person quits writing for the magazine, but I'll have a lot of fun watching these same people someday yield to public demand for just such things as variable shutters on amateur cine cameras.

Now for the final paragraph in the specifications for the camera I'd like to own and use. "Sound-on-film recording

head to be built into the camera." Only with the split 8 do I vision practical S-O-F recording for the amateur, for the reason that when you put the sound on the same strip of film with the picture, the splice has to be so long that it's a difficult thing for amateurs to make. They have a hard enough time making a straight splice hold with their silent films. With 8, tho, it's a different story, for then the splices are short. Loading the projector with a picture roll and a separate sound roll would cause no troubles, because both films would be driven by the same gearing.

If I have trod on the toes of camera makers in this outburst of day dreaming, please forgive me. May I point out that I have also left out of the "perfect camera" any apparatus for making fades, dissolves, wipes, etc., and I happen to manufacture these items myself. I don't believe the effects should be built in, but should be made in an optical printer after edition of the film has been carefully made. Of course, that means extra film and an expensive printer, so perhaps I'll still enjoy an installation now and then for those who think they can time their effects correctly as they make them. At any rate, whether you agree with my ideas of the camera or not, pray at least believe me honest in my own convictions.

Fearless Silent 16mm Professional Camera

(Continued from Page 214)

shaft, thus transmitting the motor power directly to the most highly stressed part of the camera and eliminating a great deal of noise caused from gears. The motor itself absorbs any vibration caused by the intermittent movement.

Silent bakelite gears are used to drive the sprockets and shutter shaft. A large heavy shutter of the two-opening type running at a speed one-half of the intermittent mechanism is used for a flywheel. This heavy revolving shutter also absorbs any noise that might be transmitted to the front of the camera and makes it possible to make colored pictures of the Kinema Color type directly, by inserting the proper Orange red, and Blue green, filters in front of each of the shutter openings.

Three color separation or four color separation negative may be produced in the same way by using two films and Bi-Pack magazines. Of course, with the Bi-Pack magazine attachment colored pictures of the Du Chrome process may be made directly in the camera, just the same as they are now made in the professional 35mm camera.

A standard Fearless silent movement of reduced size is used to feed the film intermittently past the aperture. A claw pin is used to pull the film down and a pilot pin is used to lock the film during the exposure. This movement is extremely easy to thread and due to simplicity of design and accuracy of workmanship is so silent that only by placing the ear against the frame of the movement can any sound be heard while in operation.

An automatic anti-buckling device is built into the camera. This device controls the tension upon the film as it is taken up into the magazine and prevents any slack film from accumulating in the camera to cause the so-called buckle.

A trap is built into the bottom of the camera so that film may be fed into the camera down through the intermittent movement, over suitable tension rollers and down into the sound recording attachment where sound may be recorded directly upon the picture as it is being photographed.

The recording feed sprocket is hobbed by a special method for securing uniform motion to the film and is controlled by a fly wheel and spring or mechanical

filter. After recording has taken place the film passes back into the camera case to the take up or feed sprocket and then back into the film magazine. The camera of course can be used without the sound recording attachment.

The shutter opening is controlled by a hand operated adjusting knob, and is arranged for making dissolves or fade in and fade outs. A three-speed dissolve mechanism being built into the camera so that dissolves of 32, 64 and 128 frames may be made. All controls are at the rear of the camera where they may be easily operated.

The New Fearless Magazine

The new Fearless Magazine is being announced along with the advent of the new Fearless Silent 16mm Camera. Over eighteen months' time was spent in experimenting, research, and patent investigation before the Fearless Camera Company had developed a magazine that they feel would be superior to any now on the market.

A camera magazine at first thought appears to present no problems, but with a little thought any cameraman will realize that thousands of feet of film have been spoiled by the magazine. Scratches are one of their worst faults. Practically all buckles in a camera are caused by improperly constructed magazines. Most magazines are extremely hard to thread, and it is almost impossible to keep them clean; and in every case it takes a great amount of labor to dismantle the magazine to remove rollers and light trap for cleaning. All of the magazines now on the market are somewhat noisy.

Realizing all the above defects. the Fearless Camera Company has perfected a new type magazine which overcomes the troubles found in most magazines. The new magazines were designed primarily for silence, serviceability, durability and reliability, and are extremely easy to load.

The main magazine casting carries the take-up rollers and spools. This assembly is carried out on instrument type bearings.

Film is fed from the carrier spool through a free opening light trap where the light is trapped by two rollers which are also mounted on precision instrument type bearings, and by a velvet lining in the throat of the magazine. The rollers are made from duralumin and the roller shafts from steel. The light trap is removable from the magazine. Six screws in the bottom of the magazine hold it in place in the main casting. These may be removed in a few seconds time and the entire trap removed. The light trap assembly can be quickly taken apart by removing four screws from the side of the casting. In fact the light trap can be removed, completely dismantled, cleaned, and reassembled in less than ten minutes time.

The perfection of design, the materials used in fabrication and the extreme pains taken to insure precision machine work in their construction makes the Fearless Magazine buckle proof, dust proof, and insures against trouble.

Inasmuch as this camera has been developed for the professional cameraman no expense has been spared to make it the finest camera of its kind in the world. Only the finest materials and the highest quality workmanship have been used in its construction and it is presented as the finest 16mm professional camera in the world.

CLASSIFIED ADVERTISING

Rates: Seven cents a word. Minimum charge, one dollar per insertion.

FOR SALE—MISCELLANEOUS

FILMOPHONE complete with projector, amplifier, speaker, like new $189.50. Humidor case for 10-400′ 16mm reels with lock, key $2.49. Used features and single reels $3.75 reel. Used humidor cans 35c. 200′ 16mm self threading aluminum reels 28c, with humidor 49c. Humidifier 25c. Beaded screen material 72c per sq. ft. 30″x40″ beaded screen on rollers new $4.86. Kodacolor filter, 2 density filters for C.K. models $7.50, Victor and B&H $11.50. Sept camera with magazines, case $22.50. DeVry still 35mm camera $5.95. Projector for same $8.95. Titler for Simplex Pockette Camera $3.69. Sound silent library, free membership, films shipped anywhere, trades accepted. We carry everything in still and motion picture equipment. MOGULL BROS., 1944-C Boston Rd., N.Y.C. M

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GENUINE Bell & Howell, 1000-ft. magazines in excellent condition, $50.00 each. Four hundred foot magazines, $25.00 each. Four hundred foot Mitchell magazines, $25.00 each. Cases for above, $10.00 each. Hollywood Camera Exchange, 1600 Cahuenga Blvd., Hollywood, Calif. Cable HOCAMEX.

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MITCHELL CAMERA, very quiet steel gears, 3 Pan Tachar lenses, Free head, complete studio equipment, excellent condition, $1300. Camera Supply Co., Ltd., 1515 N. Cahuenga Blvd., Hollywood, Calif.

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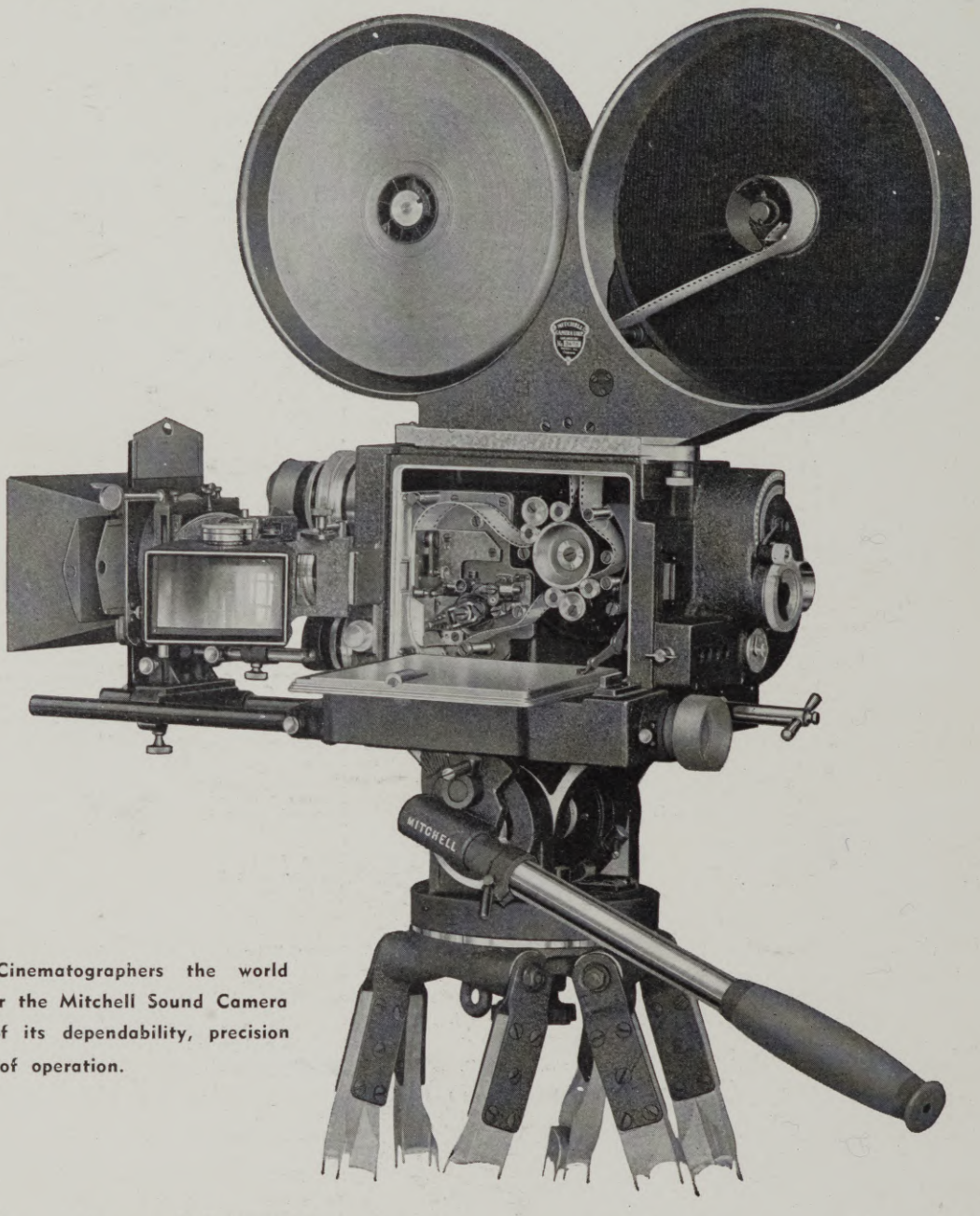

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